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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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LOWERING LAKE LEVELS—IGNORING THE EFFECT TO NAVIGATION.

BUFFALO, N. Y., Aug. 21, 1899.

THE MARINE RECORD:

Some time ago I received a letter from you asking views on the probable result to lake levels and lake navigation from the cutting of canals through the inter-lake passages. I had so much work ahead of me I found it impossible to take the matter up at the moment, but, if this late reply is of account I gladly make it.

It must be agreed that anything that increases the outflow from a body of water will lessen its depth, so that the only question to be settled is whether the advantage gained is enough to make up the loss. The apparently capricious shifting of lake levels, for a time very low without recent increase of rainfall, and now for some years quite high from the same apparent lack of cause, has tended to draw attention from the real condition of things and set not a few people to speculating over the possibility of the changes originating from causes that have not been studied.

But all this sort of research is without profit, for the lakes will rise when the water they receive is greater than the water they discharge. There is but one point worth special attention, and that is whether a comparatively narrow canal dug in an existing channel may not, under certain circumstances, merely tend to concentrate the outflow without materially lowering the lake level. The widening and deepening of the Emerald Channel at the mouth of Lake Erie opposite Buffalo, has not sensibly affected the level of the lake. I do not think that this point is well understood by anyone, and certainly shall not undertake to express an opinion on it.

It is a matter of about 45 tons to a 400-foot steamer every time the possibilities of draft are changed an inch. It would not be much of a problem to compute the loss of tonnage to the lake fleet from the lowering of the levels any given amount. Such a calculation is not needed, however, as it is seen at a glance to be so great that it would amount to fortunes in a very short time. Of course the people interested in the power canal at the Sault or the Chicago drainage canal are proceeding on the plan of ignoring the effect to navigation, as their interests are in a different line. When they say that there will be no detrimental effect to navigation, they are merely trying to throw dust in the eyes of people who have interests in lake levels, and see a loss to result from lowering these levels.

There is much interest on the part of vessel owners in the

final outcome of the above-mentioned projects, especially regarding the power of government in controlling them and similar unauthorized ventures. If the Chicago canal lowers the lake level seven inches, as has been estimated, and thus practically ruins all the lake harbors that come under its influence, what will the government do about it? Here will be a fine chance to exercise an authority that must be used to save the lake trade. Not to use it will be to provoke more of the same sort of innovation. JOHN CHAMBERLIN.

TO PROTECT THE INTERESTS OF LAKE NAVIGATORS—MR. FIRTH'S VIEWS ENDORSED—OPINIONS OF AN EMINENT CANADIAN ENGINEER.

CHIEF ENGINEER'S OFFICE,
DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, CANADA, Aug. 21st, 1899.

THE MARINE RECORD:

I beg to acknowledge receipt of your letter of the 16th instant, forwarding for my perusal, a copy of Mr. Firth's letter of the 15th ultimo, published in your issue of the 20th ultimo, on the subject of lake levels. I am sorry I have not time at present to go fully into this important subject, but I endorse most emphatically Mr. Firth's view, that comparatively small reductions in lake levels are of vital importance, especially to modern United States lake freighters, and I also agree with Mr. Firth in urging a permanent policy which may protect the interests of lake navigators without needlessly restricting private enterprises.

Yours very sincerely,

Chief Engineer.

WM. P. ANDERSON.

OUR FOREIGN SHIPPING INTERESTS.

Give to our shipping in the foreign trade the benefit of the protective principle, argues the Philadelphia Press "and it will increase like that in the coastwise trade. Shipyards would multiply, and vast millions of dollars now paid every year to foreigners to do our carrying trade would be kept at home." The case could not be more clearly and cogently put. Now, let our Republican Congress and McKinley Administration go to work to achieve it. The protective principle has not missed fire once yet in its application to American industries—not once. It is safe to affirm, therefore, that success would follow the like application to all of our shipping interests as well as a part. In a word, why not build our own ships wherewith to carry the merchandise of our own producing to foreign markets?

A LACK OF SHIPBUILDING MATERIAL.

Owing to the great difficulty experienced in getting iron and steel rapidly enough to carry on work, the William Cramp & Sons Ship and Engine Building Company, Philadelphia, has been compelled to greatly reduce its force of 6,000 men. Three hundred men were laid off a few days ago, 500 men were suspended and at the end of last week 1,500 men were relegated to enforced idleness. The decision of the company affects all departments and has caused consternation among the employees. The firm was much averse to taking the step, but could not keep all the men employed, because of the lack of iron and steel. The company has \$20,000,000 worth of work on hand.

Other shipyards on the Delaware river are also experiencing trouble in getting iron and steel. At present there are thirty-seven vessels in the course of construction along the Delaware, and fully twenty-one of them will be delayed, owing to the lack of material.

A similar condition exists among the shipyards of the Great Lakes and there are a large number of skilled workmen idle owing to the lack of shipbuilding material.

TESTING OCEAN SURFACE CURRENTS.

Some valuable information respecting ocean surface currents has recently been obtained by the Hydrographic Office, Navy Department, through floating bottles thrown overboard by steamers and recovered by passing ships, as well as by report of the exact points at which they were found. Frequently the bottles are picked up and again tossed overboard after the latitude and longitude and the number of the bottle have been noted, so that the office in Washington may know the direction taken by the bottle since put into the sea or last sighted by some vessel. In this way the direction it has drifted and the strength of the current can be fairly accurately estimated.

There are some recent returns which show that bottles have floated thousands of miles, and one has a record of covering 2,400 miles in 92 days. This bottle was thrown overboard from the steamship Fuerst Bismarck on May 1, 1898, about 350 miles southeast of Cape Race, and recovered on August 1 in the vicinity of Glückstadt, on the Elbe. The distance between the two points, following the route through the English channel, is about 2,400 miles, giving 26 miles as the lowest possible estimate of the daily average velocity with which the bottle traveled eastward.

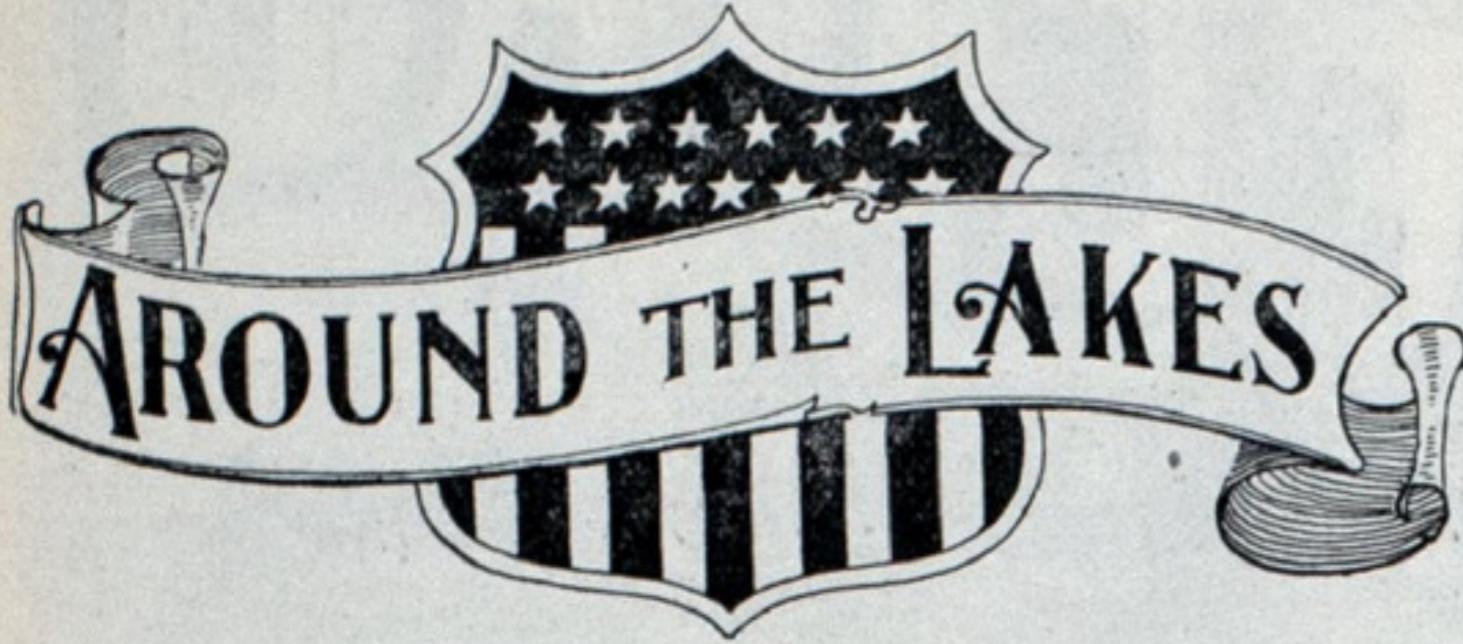
The longest distance made by any bottle was one thrown from the steamship Electrician, which covered 6,300 miles in a little over three years, or an average of nearly six miles a day. Another bottle traveled 6,000 miles in 674 days, or an average of eight knots, while still another made 5,000 miles in 327 days or an average of 15.3 knots a day. Another good record for a bottle is 300 miles in 16 days, or an average of 18.8 knots a day.

In conducting its experiments the Hydrographic Office, Navy Department, has had the co-operation of the Russian Government, which on the cruises of two of its vessels had thrown in the sea, 703 bottles, of which 30 have been recovered and reported. Taken collectively, the paths followed by these floating bottles give a good idea of the drift currents of the North Atlantic. The motion of the waters on this side of the North Atlantic seems to be northwesterly, as is evidenced by the destination of the numerous bottles cast adrift between Madeira and Cape San Roque, all of which ultimately found their way to the Windward Islands, the Bahamas or to the western shores of the Gulf of Mexico.

BILL OF HEALTH NOT REQUIRED.

The Secretary of the Treasury has issued a letter of instructions to customs officers which states that vessels plying between Canadian ports on the St. Croix river, the St. Lawrence river, the Niagara river, the Detroit river, the St. Clair river and the St. Mary's river, and adjacent ports of the United States on the same water; also vessels plying between Canadian ports and Lake Ontario, Erie, St. Clair, Huron, Superior, Rainy Lake, Lake of the Woods, Lake Champlain and ports in the United States; also vessels plying between Mexican ports on the Rio Grande river and adjacent ports in the United States are exempt from the provision of the act which requires vessels clearing from a foreign port in the United States to obtain from the consular officer a bill of health.

THE United States Weather Bureau's meteorological chart of the Great Lakes presents a chart of the normal annual precipitation of rain and snow in the drainage basins of the Great Lakes, with a set of tables and a brief summary prepared by A. J. Henry. The conclusion reached as to the influence of the lakes on precipitation is as follows: With the possible exception of Lake Superior, the lakes do not seem to have a very marked influence on the precipitation over adjacent land areas.



DETROIT.

Special Correspondence to The Marine Record.

The Comstock lumber mill at Alpena was destroyed by fire on Friday last.

The J. C. Lockwood is on the dock at the Craig shipyard, Toledo, for some calking to her hull.

The Desmond, with lumber for Cleveland, broke her shaft off Recors Point and will take a couple of weeks to finish repairs.

Capt. James Davidson fell into the hold of the steamer Tampa at West Bay City, Thursday last. He was not seriously injured.

It is reported that the stage of water in Saginaw Bay is slowly rising, being six inches higher than last August and a foot and a half higher than two years ago.

Assistant Secretary of the Treasury Spaulding left here on Tuesday, to inspect light-houses, life-saving stations and other government work on the upper lakes.

Capt. Michael Marr has been appointed sub-inspector of the work authorized to be done in Saginaw river. \$40,000 was set aside for the work which will be started this week.

The steamer Appomattox has just undergone general repairs and partial rebuild at the Davidson shipyard. Each of the fleet will be overhauled in regular order, ready for fall.

Mr. A. R. Lee, who is interested in the swift passenger steamer Unique, has been conferring with Bay City parties relative to placing that craft on the route between Bay City and Point Lookout.

Messrs. Rooney Bros., Toledo, began work this week on their \$100,000 contract for dredging Belle river. The tugs Fannie Tuthill and J. Johnson, with the dredge Birch-head, will do the work.

Besides having the damage caused by collision repaired, the car ferry steamer Lansdowne will receive a thorough general overhauling. The car ferry Huron is also being put in shape for river service.

The steamer Mae, built by the Craig Ship Building Co., of Toledo, for the Porto Rico Steamship Co., New York, is one of the vessels chartered to carry supplies to the suffering people of Porto Rico.

The schooner Emerald, which was libeled up by the Craig Ship Building Co., at Toledo, a few days ago for \$395.34, the amount held against her for repairs, has been released. Her captain, James Boice, paid the amount, together with the costs of the court.

Daniel Brown, a colored cook on the City of Alpena, used his razor with great effect on one of his shipmates, a white man. He is now held here for assault under \$500 bail, and from the unprovoked nature of the attack it is thought that he will be given the full limit of the law.

The tow barge Matanzas, consort of the Venezuela, fetched up at the Lime Kiln Crossing on Monday. The steamer George W. Roby also grounded near the St. Clair Flats canal. Assistance was promptly sent to each craft. The Wales to the Roby and the Saginaw to the Matanzas.

Capt. Alvin Neal, ferry manager between Port Huron and Sarnia, is somewhat under the weather and is now in charge of his medical adviser. All who know Capt. Neal will be pleased to see him to windward again as early as possible, though I hear he has rather a hard row to hoe this time.

Capt. James Davidson met with a slight accident through falling in the hold of one of his vessels last week. It takes something more than the drop of a dozen feet or so to knock Capt. James out, and Mr. James E. Davidson says that his father will be around again as brisk as ever within a few days.

The wrecking tug Favorite, Capt. Mart Swain, reports that the position of the Menominee line steamer German, under charter to the Canada-Atlantic line, stranded on Tobin's reef, west of Detour, is more serious than was at first thought. Jack-screws will have to be used to float her. She is neaped fully two feet her whole length.

Commander Perkins, of the U. S. S. Michigan, has received orders to sweep the Straits of Mackinac for obstructions to navigation in connection with the work of the hydrographic office, as the large amount of ice in the Straits last winter caused the unheaval of a number of large boulders that are now a menace to navigation.

The steamer Maine, owned by A. C. McLean, of Saginaw, is being rebuilt in Howe's slip, West Bay City. Some delay has been experienced in securing timber, but it is expected that the work will be completed within 30 days. The machinery is also being overhauled. The repairs will cost close to \$10,000 and will make the Maine one of the staunchest boats in her class.

Negotiations are in progress for the sale of the steamer St. Paul, owned by the King Transportation, of this port, to the Gilchrist firm at Cleveland. The St. Paul, which had lain idle for several seasons, was fitted out only a couple of months ago. Lou Burt, Jos. King and Irving Green are part owners of the vessel. The steamer is at Escanaba and will be inspected there previous to her sale.

Capt. Stewart, managing owner of the C. F. Bielman an AI wooden steamer of 2,056 tons, figures that about \$10,000 per month is a modest lump figure to charter at for the balance of the season. The Bielman is now paying up on some of the starvation rates of freight that she was compelled to accept last year. As long as rates are advancing Capt. Stewart is quite agreeable to charter only from trip to trip.

The steamer Morley, also the Trevor, were both raised from their sunken positions this week, and Detroit wrecking companies have added to their well earned laurels for expeditious and successful wreck raising and salvage work. The Detroit wrecking tug Swain, stationed in the Straits of Mackinac, has also done some capital towing jobs and in releasing stranded vessels so far this season. Messrs. Parker & Millen simply have to 'phone Capt. Mart Swain what they wish done in the locality of the Straits and the work is as good as accomplished.

DULUTH-SUPERIOR.

Special Correspondence to the Marine Record:

The steamer North West went into dry dock this week for a new screw.

A special rate of \$1.55 was paid the steamer Whitaker on iron ore, Two Harbors to Milwaukee. \$1.35 to \$1.40 is the Lake Erie rate, the former figure being quoted.

Material is arriving for the new barge to be built at the yards of the Superior Ship Building Co., and, as more is expected, it is likely that a large body of men will soon be at work on the new hull.

Freight handlers are now being paid 30 to 35 cents an hour with all the work that they want to do. Upwards of 100 men joined the union this week. No question but they work hard and well, and earn their pay.

Work on the new dry dock excavation is again delayed by the recent heavy rains. The men can work in only one place, at the gate, and it is expected that the finishing of the dock will be delayed for a considerable time.

The collector of customs has a pleasing job in remitting fines levied on account of vessels not having a clean, or any other bill of health, the law on this point has been rescinded by order of the Secretary of the Treasury.

Prospects for floating and repairing the Harlem are good, and it is now being figured that she will be ready for work at a total outlay of \$100,000, half of which is reckoned on as he cost of repairs. She will be a cheap boat at that price.

The U. S. revenue cutter Morrill will go into dry dock for repairs as soon as she can be accommodated. It is not often that we see a little craft from the coast up at this end of the lakes. Since coming from salt water she has been altered and improved so that she is now in shipshape order for lake service.

Capt. Inman must have had a bigger job than he expected on the Penobscot, her coal cargo is being lightered and extra pumping gear has been sent to her. When the steamer stranded on Knife Island, her master thought it was a collision with a moving body, anyway, she is badly battered up forward, and will be dry docked as soon as they can get her here.

The number of passengers from lower lake points reaching here this season, is almost incredible, every boat from Chicago and Buffalo brings her quota, but the big twin screw exclusively passenger steamers of the Northern Steamship Co., simply swamp hotel accommodations. This special feature is worthy of the attention of capitalists, as a large tide of travel requires to be taken care of each season, and the volume is increasing.

It is now figured that the increased freight rate on coal has already cost about \$750,000 over the figures paid last year. The special rate is now 60 cents, a year ago it was 20 cents; the going rate is quoted at 50 cents but coal is not coming here in any quantity at that figure and all interior consumption will have to be provided for by rail. Even at that, there is no getting cars to ship coal west and there will need to be some great hustling done in some way to procure any sort of scant supply of coal to last until next spring.

City editor Mills, of the Dunn County News, made his first visit to Superior a couple of weeks ago, and records his impressions of the possibilities of this "neck of the woods," in a column article, winding up in this strain: "The City of Superior waves a wand—and in the perspective far to the east over the inland sea sees the goddess Aurora bringing in the morning of a new day. Again she waves the wand. She hears the rustling sails of a mighty commerce, and the wind-wafted music seems to her like divine symphony. Yes—long before the passing of two decades she will stand among the great of the earth. Hail to thee! Thou who art of comely proportions and pleasing to look upon! Closely shall we watch thy growth and development—thou child of the northern pines—fairest young queen of the lakes." This is the aggrandizement for poetical flights of fancy that a glance at our shores gives strangers.

CHICAGO.

Special Correspondence to The Marine Record.

The Neosho chartered for corn to Buffalo at 2½ cents on Monday. Ore cargoes are now given the preference.

Johnston Bros., of Ferrysburg, Mich., will soon begin the construction of a tug 90 feet long for parties at a lower-lake port, it is reported.

The wreck of the City of Duluth is now clear of the entrance to St. Joseph, the last piece being cleared away this week. It was a year ago that the contract was let, and the government agreed to pay \$1,995 for the work.

The excursion steamer Bloomer Girl gave her passengers a scare by catching fire, when about four miles off Milwaukee. Fortunately she reached that port, landed her passengers and extinguished the fire with but a small loss.

Efforts are being made by Lieut. J. E. Reinberg, assistant inspector of the eleventh life-saving district, to have a new life-saving station built on the lake front, at Chicago, to take the place of the building that is now near the mouth of the river.

Two bridges over the Chicago river have been ordered closed to traffic, seven others were condemned as dangerous, and two more were labeled "very suspicious." These last will be allowed to remain open for a time unless something happens. Then they will be closed.

Mr. Wm. L. Brown, the iron and steel magnate, and the president of the American Ship Building Co., left Chicago on Tuesday, for a two months' trip to Europe, sailing from New York on the Cunard line steamer Lucania. He will visit Switzerland, but most of his time will be spent in Great Britain.

F. M. Towar, engineer in charge of the survey of the Illinois and Desplaines rivers, who dropped dead Thursday, was formerly assistant engineer under Major Clinton B. Sears, Corps of Engineers, U. S. A., on the Portage Lake improvements. He occupied this post last season, and on the recommendations of Major Sears and others he obtained the position that he occupied at the time of his death. Mr. Towar was on the lake survey from 1836 to 1878.

According to the abstract of proposals for the manufacture and delivery of all steel and cast iron for aqueduct Nos. 1, 2 and 3, Illinois and Mississippi canal, opened August 9, by Major W. L. Marshall, Corps of Engineers, U. S. Army, the Toledo Bridge Co. sent in an informal bid of \$45,000. The Carnegie Steel Co., Pittsburgh, \$40,473, bid also informal; Chas. L. Strobel, Chicago, in complying with all the specifications, submitted a bid of \$44,151, and it is understood that this proposal will be recommended for acceptance. The amount available for the work is \$45,000.

Orders have been sent to dredging companies this week to stop all dumping of dredgings in the lake within eight miles of the shore off the city from Rogers avenue on the north to the Indiana state line on the south. These orders are to be carried out too, and it would be well if other lake ports would adopt similar measures. Congress may vote money, U. S. engineer officers and the municipality may dredge, but unless there is a proper surveillance exercised, private interests will render their work inoperative. The next step is to define where steamboat ashes may not be dumped.

President Graham, of the Graham & Morton line, announces that another side-wheel steamer will be built by the line this winter, giving the company next year three fine passenger boats. The line will have four sailings from Chicago daily. Mr. Graham further stated that next year there would be a fifty-cent fare each way straight, within round trip for the day. The fare on the night boats would not be changed. "The Graham & Morton Co. has always kept its promise to the public," Mr. Graham added, "and it will this time." The shipyards where the new steamer is to be built has not been fixed upon as yet, but as likely as not it will be at the South Chicago yards.

Capt. John Freer, whose death at Goderich, Ont., occurred last Tuesday, was one of the oldest of the lake captains in point of service, as he piloted one of the first steamboats that ever appeared on the Great Lakes, and had been in continuous service since the early '50s. He was also one of the pioneers of the City of Chicago. Capt. Freer came to this city from England when he was 14 years old, and he has sailed the lakes ever since. His death was on his schooner, the Madeline T. Downing, and was due to apoplexy. He left here in command of the boat a week ago and died at his post. A large number of vesselmen accompanied the remains, on Friday last, from the family residence at 402 West Division street, to Rosehill cemetery.

When the steamer Lawrence was drydocked at Milwaukee last week, to be scraped, it was found that there was a growth of grass on her bottom eight inches long. The running time of the boat had been lengthened an hour by her foul bottom. The same story is told regarding the Detroit river mail boat Florence B., the grass and moss being so thick as to lessen her speed very perceptibly. This is something new in lake experience and we will soon be calling for an anti-fouling composition. It is not known that any corrosion has taken place in the bottom of iron and steel ships, so that we can do without an anti-corrosive, but it is likely that the smear will have to be applied in some cases, but it will have to be clear of arsenic or other poisonous ingredients so as not to poison the fish or natives.

THE MARINE RECORD.

BUFFALO.

Special Correspondence to The Marine Record.

A million bushels of grain each day is about the way this port receives grain these times and there is no detention in handling it either.

The steel steamer Buffalo, sister ship to the Troy, built for the Western Transit Co., will be launched from the yards here on Wednesday, August 30, at 5 o'clock p. m.

The striking ore-handlers at the Minnesota docks returned to work Monday. They have been receiving 10 cents per ton and struck for 12½ cents, but agreed to accept 11½ cents.

Last Thursday was another big day in the lumber business. It is estimated that 10,000,000 feet was divided between Tonawanda and this port, but the bulk went down the river.

It was remarked a little while ago that no steel steamers were changing hands this season. Drake, Maytham & Co. have just purchased through Capt. W. W. Brown, Cleveland, the steel steamers Vega and Vulcan, of the Lorain Steamship Co. Consideration about \$230,000.

Capt. John Ledger, of Buffalo, is dead at his summer residence at Oak Ridge, Ont., aged 72 years. He sailed the lakes for many years and was prominent in marine circles. He was very popular with the vesselmen in the early days. About twenty years ago Capt. Ledger retired from sailing.

A serious break occurred in the Erie canal at Syracuse on Sunday. The under part of the partition between the two sections of lock 49 was washed away, and it was found necessary to draw off the water from the five mile level. About 200 boats will be delayed nearly all week by the break.

Talk about making money? If the two Northern Line boats North West and North Land are not corraling the ducats these times then nothing afloat is. I saw a passenger list this week for the up trip that made my head swim on account of its length. It looked enough like the directory of a small town.

The H. A. Meldrum, the new tug built for Hingston & Woods by William Hingston & Son, and launched recently, is now ready for work. When the new scow, which is being built for the same firm, is launched, the Meldrum will tow it to Portage, to be used with the big dredge, Pan-American, now at work on the ship canal.

Under the regulations governing masters and pilots no pilot has a right to take a vessel down Niagara river unless his papers mention it or specify both Lakes Erie and Ontario. It is a mistake to undertake this work unless a pilot is well acquainted with the river, as there are a great many narrow passages, and a pilot needs to be acquainted with the current as well.

Never in the history of the port has there been an excursion like that given on the City of Buffalo of the C. & B. Line last Sunday. I don't know what the limit of her excursion permit is but she had all she could carry and the City of Erie is to duplicate the excursion and the crowds next Sunday and invade Dunkirk once more, a fifty cent sail of eighty miles in four hours, takes the cake.

Instead of building two more passenger steamers it is now reported that the Northern Steamship Co. will build a fleet of steel tow barges. It seems as if a dozen different firms want to contract for new tonnage now that material can't be procured. I learn that work on new construction is being rushed at Wyandotte and that one of the fleet of 200 feet steamers will be built there instead of at Lorain as at first given out.

The new steamer India, owned by the Calvin Co., of Kingston, with a cargo of iron ore, went ashore eight miles above Port Colborne, on Sunday, during the dense smoke which has been hanging over the lake the past week. The steamer ran out sixteen inches forward, and her consort, the Augustus, lightered part of her cargo to assist in affecting her release. Other assistance was promptly furnished and she was released on Monday apparently undamaged, she then proceeded to her destination.

A number of changes were announced among the masters of the harbor tugs, due to the resignation of Capt. Charles Nash. He has been employed with the Maytham line for over twenty-five years, and was captain of the S. W. Gee. He left to take charge of the tug H. J. Warren, owned by the Buffalo Dredging Company. Capt. Green, of the Warren, will have the new tug Triton, owned by Capt. Maytham, and employed on the new breakwater. Capt. Charles W. Baker, late of the Triton, goes to the P. B. McNaughton. Capt. Albert McMinn, formerly of the Alpha, has been placed in charge of the E. C. Maytham, to succeed Capt. John Farrell, who takes the Gee, while Capt. Charles E. Smith, the only new addition to the line, will be master of the Alpha.

Mr. Alfred Mayer, marine inspector for Messrs. Smith, Davis & Co., and one of the best informed men on the Erie canal route in this city, is in favor of large improvements being carried forward. Mr. Mayer says: "What we need is a barge canal, not a ship canal. The latter when over a certain length, proves a failure from an economic viewpoint, so far as ocean vessels are concerned. The Welland is practically a barge canal. The Suez, or others of a similar character whose lengths do not go over say, a hundred miles, are all right for ship canals, but when you have a canal 300 miles long, it is different. The old Erie canal was not designed for a hydraulic canal, but simply as a ditch for transportation by boats of a certain size, and it was given just fall enough to keep the water from stagnating."

CLEVELAND.

Special Correspondence to The Marine Record.

Harry Thomas, Bedford, O., mate of the schooner Columbian, drowned at the dock in Lorain on Monday. The body was recovered.

A contract for another fish tug has been placed, this week, at the Devney shipyard, Ashtabula. A similar craft is now nearly completed.

Mr. William J. Hitchcock, average adjuster with Messrs. Johnson & Higgins, New York, visited this port on Saturday last and made numerous calls among his friends in shipping circles.

Capt. I. G. Gillespie, Toledo, has been on a business visit at this port through the week. I understand that the captain has been having some metal tested by the local inspectors of steamboats.

Mr. Jones, representing London Lloyds Salvage Service Association, has been appointed as their lake correspondent with a residence in Cleveland. Mr. Jones has secured office room in the Perry-Payne building.

Congressman Berry, Newport, Ky., a member of the river and harbor committee, inspected this harbor during the week, accompanied by a number of prominent vessel owners. Mr. Berry afterwards proceeded to upper lake ports.

There is a complaint that passenger steamers entering and leaving Toledo exercise their electric search lights a little too much for the peace of mind of the tug captains. A fifteen million candle-power glare dazzles the eyes and blinds people on board of tugs.

Mr. Arthur Dovale, nautical expert in the local branch of the Hydrographic Office, U. S. N., has been elected senior lieutenant of the first division of the Ohio naval reserves. Mr. Dovale was formerly connected with the Illinois naval reserves.

Capt. W. C. Richardson closed season charters this week for his principals, on the steamer Amazonas and consort Armenia, having a carrying capacity of about 7,000 tons, also the steamers Iron King and Iron Queen. Capt. Richardson will manage the fleet while they are under charter.

Capt. W. W. Brown, late manager of the Ship Owners' Dry Dock Co., and for several years master of some of the best steel tonnage out of this port, has quit sailing, but not business. A few days ago Capt. Brown informed me that he was about completing a deal that is not carried through every day, and now it appears that he has disposed of two steel steamers to Buffalo parties, aggregating 4,000 tons, consideration about \$230,000. Shipmasters can not alone handle vessels, they also frequently make keen business men.

There has been quite a little trouble with harbor groundings here again this week. The Nasmyth, Whitworth and Golden Age all smelled the mud for a few hours abreast of the river Custom House. They were all deep loaded boats, and the water was an inch or two lower than usual, but even these conditions ought not to bar vessels from entering the port or detaining them in their attempts to do so. Col. Smith, Corps of Engineers, U. S. A., expresses his desire to assist vessels as much as possible by keeping the outer harbor well dredged.

I learn that Capt. McBrier, of Erie, is one of the fortunate owners that didn't charter ahead this spring, and, accordingly, his fleet is trebled, so far as earning capacity goes. He felt seedy enough this spring on viewing the low rate outlook, but, as it happened, better judgment prevailed and he now has his tonnage to charter. It was all a chance though, no judgment could very well be exercised. No one could have foretold last winter the present condition of the freight market, and besides, chartering ahead has turned out all right in other seasons. A good many owners were be-deviled though, by the ill-advised cry of over production of tonnage and the fact that the large iron ore companies were adding immensely to their already large fleets.

Capt. Geo. P. McKay, treasurer of the Lake Carriers' Association and chairman of the committee on aids to navigation, has fully recovered from his recent severe attack of asthma and is again at his desk, working with old-time vigor. The captain handles a wheel now, not to say but he could use one to perfection half a century ago, only they didn't have handle bars then, nor did he straddle it to make it spin, however, this is a health giver, moreover, it saves time and also gives heaps of pleasure to the ridee. I asked Capt. McKay, this week, what his impression was regarding tapping the lakes by making artificial outlets. He said that the proposition, shorn of all technical verbiage, was a very simple one to him, as it should be to every one else. There is a certain natural supply, and, if unusual drafts are made upon it, the bulk, or volume must diminish in proportion to the over draft. Capt. McKay made a very unique illustration of the question in filling a cask with water and the overplus emptying itself at the bung. Now, bore spile holes at various elevations from the bottom, whether in the ends or sides, and, the confined body of water must get less, in proportion as the number of spile holes bears to the overflow at the bung. Capt. McKay is at one with all the important marine interests in stating that there is not a fractional part of an inch too much water now, nor never was, therefore, the levels should be zealously and jealously guarded, and any attempt to lessen the draft at any point on the lakes should meet with the immediate and determined attention, if not the opposition of marine and cognate interests.

It is with much regret I learn that Capt. Thos. Wilson, manager of the Wilson Transit line, is still somewhat "under the weather." All who know Capt. Wilson will wish for his speedy recovery and hope that the week's "lay off" may be the only one for many years to come.

Capt. De Ott visits around sometimes. I was pleased to meet him the other day looking as well and hearty as he did a dozen years ago. The captain now lives on his own property in Brooklyn and is resting on his oars after the several hard seasons spent in ore trimming at Ashland, Wis. Capt. De Ott is very modest about it, but it is said that he has saved a competency and will not need to sail any more. Much credit is due his foresight in grasping the fact that the days of trimming ore cargoes would soon be over. Knowing or realizing this he stowed away a shot in the locker, while others lived up to their income.

The steamer W. P. Ketcham, fined this week for carrying passengers without a license, has caused considerable comment. The steamer left Chicago several days ago for Sarnia, Ont. She stopped there on the way down and came into this port with a part of her cargo. The passengers were taken on board at Chicago, and when the customs officials here went to go through the boat to make an inspection, they found them. As soon as the passengers were seen the customs officials asked for the license of the master for carrying passengers on that boat. He had none, and the case was reported and the penalty assessed. There are a good many cargo boats which have a license to cover carrying a few people, but they are in the minority. The others which have not a license, have, a good many of them, been carrying passengers just the same, and running the chances of eluding the customs officials.

The firm of Bassett, Presley & Train, the well-known iron and steel warehouse, are among those who were far-seeing enough to make contracts in the iron and steel market well ahead. At the earliest indication, and before prices on metal had begun to advance, Mr. Bassett, senior member of the firm, made a tour of the Pennsylvania mills and closed some quite large contracts for future delivery. Other large orders were placed at a later date, and, through watching the particular and peculiar trend of the market in the early part of the season, Messrs. Bassett, Presley & Train have been, and are, in a position to keep filled their orders for manufactured iron and steel, much to the advantage of their patrons and business friends. There is not a squarer house in the trade, and business transactions are always made both pleasant and satisfactory by the members of this old established firm.

ESCANABA.

Special Correspondence to The Marine Record.

The W. W. Cargill coal dock at Green Bay is nearly completed.

Coal arrivals continue to come along just about fast enough to keep the docks busy.

The Cleveland Cliffs Co. continue to ship an occasional load of pig iron from their plant at Gladstone.

Lumbermen in this section are complaining of the scarcity of carriers even at a rate that should tempt a good number of them.

Dredging has been going on at this port nearly every day since last spring and it is soon expected to have all kinds of deep water at every dock.

The Goodrich Transportation Co. have added another boat on this run, and even at that it is nearly impossible to engage berths out of this port.

The docks at this port have been rushed more lately than at any time this season, and it is expected the present rate will cause a greater rush from now on.

Old P. Simon, for many years assistant to the late Capt. Gaylord, as keeper at Long Tail Point light, Green Bay, has been released from duty on account of old age.

The heaviest fog of the season made its appearance here last week, and it certainly was thick enough to cut as it was impossible to see more than the width of the street.

How a person can fall into a pocket and then have a load of ore follow after and yet be taken out alive is one of the peculiar accidents at the docks, but such was the case of a new hand last week.

At a recent meeting of the ore trimmers it was decided to advance rates on trimming regular carriers from 2½ to 3 cents, and for hard (package freighters) boats from 3 to 3½ cents. This rise is to take effect Wednesday, August 23rd. The trimmers at Marquette and Ashland have also decided to make a similar move, taking effect the same day.

For the last two weeks accidents on the docks have been rather numerous, although only one resulted fatally. The man meeting death was at work on the top of the dock engaged in hoisting a chute, when a large lump of ore suddenly started out of the pocket striking the chute, which caused the iron handle on the windlass to fly back striking him in the chest and knocking him off the dock to the rail of the steamer, from where he bounded into the water, where he grabbed a large piece of timber managing to hang on until pulled out by dock employes. He was at once taken to the hospital where everything possible was done to save him, but the internal injuries were beyond help, the man dying next morning.

ST. LAWRENCE VERSUS ERIE CANALS.

Major Henry A. Gray, of Toronto, member of the Institute of Civil Engineers, and engineer in charge of the lake district under the board of public works of Canada, visited the head of the lakes last week on an inspection tour. Major Gray is a distinguished Canadian engineer and he was much interested in the extensive government improvements that are under way at the head of the lakes. Major Clinton B. Sears, Corps of Engineers, U. S. A., escorted him over the work and he expressed surprise at the extent and substantial character of the improvements. Major Gray says Canada is going to make a strong effort to enlarge its commercial and maritime importance. Discussing this project he said:

"Canada is just now much interested in the grain business, which is one of the principal items in the transportation of commodities on the Great Lakes. There were 325,000,000 bushels of grain raised in the northwest territory last year, and of this amount only 1,800,000 went through Canadian waters on its way to the seaboard. The only reason, it is believed, that a great deal more did not go through Canadian waters was because we have no harbor with adequate elevator facilities for trans-shipment. It is proposed to make a capacious harbor at Port Colborne at the mouth of the Welland canal, where grain may be trans-shipped from elevators to boats the size of the Welland canal. The providing of a harbor at Port Colborne of sufficient depth and extent would make it possible for the big boats to deliver their grain to elevators there and then, trans-ship the grain from the elevators to boats that can go through the Welland canal.

"Of course this route would be a rival of the Erie canal. This canal has only six feet of water and is 11 to 14 days to New York. By sending the grain via Port Colborne, the Welland canal and the St. Lawrence river to Montreal, the time consumed would be 6½ days, and when at Montreal the grain would be 400 miles nearer Liverpool than if it had gone via the Erie canal to New York.

"There is another advantage; the grain on the Canadian water route will be in cold water all the way, whereas the water of the Erie canal is warm. I understand that it is desirable to have the grain transported through cold water if possible. We have already got an appropriation for the work at Port Colborne, but it will cost about \$2,500,000 for the dredging, construction of breakwater and docks for elevators. If we could only get reciprocity with the United States in the lake trade it would be a good thing all around. The present minister of the board of public works of Canada, J. Israel Tarte, is very enthusiastic about promoting Canada's commercial future. We shall have our Canadian canals ready for operation some time next season, with 14 feet of water from Port Colborne to Montreal. Once we have our canals in operation, and Port Colborne is improved so that it will be the objective point for a big commerce, I think the United States will be disposed to be liberal in its views regarding reciprocity in lake matters with Canada. There is also talk of building a large smelter in Port Colborne. There will be no jealousy between Port Colborne and the other Canadian ports, such as Parry Sound, Goderich, Collingwood and Owen Sound, for the proposed harbor at Port Colborne will make a new business of its own, without detracting from the other ports mentioned."

Major Gray says he does not believe the proposed deep water project to the sea for general inter-lake and ocean traffic, will ever be realized. He says that the project is not practicable for the reason that boats would have to proceed at reduced speed and they would not find foreign cargoes for return trips in sufficient numbers.

IMPROVE ALL WATERWAYS.

The canals that serve commerce between the Great Lakes and the port of New York, are doing a very good business this year. From the opening of the Erie canal on April 22, to the end of the third week in July the tonnage was 1,406,811 tons, an increase of over 298,000 tons as compared with the corresponding period of last year, though it is only fair to take into account the fact that there were two weeks more of navigation this year than last. On the basis of the business already done, it is expected that the season will be one of the most successful on the canals for a long period of years.

It is worth noting that the increased traffic on the canals is attributed in the main to improved business conditions, and not to the effects of canal improvement work, which must be further advanced before it can be regarded as exerting any calculable influence.

All of which indicates that the one thing needed to make

the canals a great regulator of freights and a prime benefit to a large and most deserving population is proper maintenance and protection. The canals must be improved and kept up, just as the railroads are, or the waterway cannot compete. That water carriage beats rail carriage is made very plain by the fact that it costs as much to move a ton of iron from Birmingham or Chattanooga by rail, a distance of say 300 miles, as it costs to have the same iron carried from New Orleans to Liverpool, a distance of 3,000 miles.

The pessimistic tone taken by many eminent men in reference to the country's internal waterways is unfortunate, a prime error. It will be the part of wisdom to improve, make more efficient, every mile of water line we have, and to add as many miles to the present mileage as possible. The Great Lakes, honestly and effectively improved by the federal government, have been a tremendous factor in the cheapening of iron and steel, and a powerful regulator of freight rates between the west and the seaboard.

But the lakes must be extended to New York by the canal, and all attempts, by the State through which the canal runs, to make it more efficient seem to end in failure. The money, appropriated in millions, is wasted and stolen. The contractors and officials fatten, and the public gets nothing in return for its big outlay. If this cannot be remedied elsewhere, the canals will have to be turned over to the federal government. The waterway must be maintained. The country needs it and many more miles of like lines. As we have said, every mile of available river should be improved and made the most of. The lakes must be still further deepened at shallow points, so as to give twenty-five feet of water from Duluth to Buffalo.

And as to our southern rivers they should be of much greater use than they are, for the handling of heavy materials, coal, pig iron, ore, timber, grain, etc.

Those who imagine that water transportation has "played out" are greatly mistaken. This is shown wherever there is an efficient, reliable water channel such as the Great Lakes furnish on which are carried freights at rates the railroad cannot even approach, let alone meet.—*The Tradesman*, Chattanooga, Tenn.

VISIBLE SUPPLY OF GRAIN

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	1,642,000	634,000	129,000	44,000	98,000
Chicago	6,058,000	1,679,000	721,000	166,000	21,000
Detroit	479,000	62,000	11,000	18,000	—
Duluth	3,096,000	258,000	72,000	73,000	53,000
Fort William, Ont.	1,300,000	—	—	—	—
Milwaukee	59,000	3,000	—	2,000	10,000
Port Arthur, Ont.	200,000	—	—	—	—
Toledo	2,122,000	517,000	269,000	11,000	—
Toronto	63,000	—	7,000	—	14,000
On Canal	863,000	34,000	261,000	—	10,000
On Lakes	657,000	991,000	455,000	19,000	95,000
Grand Total	36,207,000	7,965,000	4,039,000	623,000	406,000
Corresponding Date, 1898	5,850,000	16,123,000	2,910,000	401,000	256,000
Increase	99,000	2,216,000	152,000	51,000	45,000
Decrease	—	—	—	—	—

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

BIDS FOR CEMENT.

According to the abstract of proposals for furnishing 15,000 barrels, more or less, of natural hydraulic cement for use in construction of dam No. 6, Ohio River, opened Aug. 12, by Major W. H. Bixby, Corps of Engineers, U. S. A., Cincinnati, O., The Cummings Cement Co., Akron, N. Y., bid 73½ cents in sacks, on board cars in barrel quantities, in barrels the price submitted is 87 cents. The National Cement Co., L'td, Pittsburg, Pa., bid 93½ cents in barrel lots delivered in sacks on board cars but submitted no bid for delivery in barrels.

The largest cargo of railroad material that has gone from an American port was cleared from Philadelphia aboard the British steamer Puritan. It consisted of forty locomotives and eighteen steel bridges for the Chinese Eastern Railway, now in course of construction under the supervision of the Russian authorities with the financial aid of the Russo-Chinese Bank. A similar cargo is now loading, destined for Russian Black Sea ports.

NOTES.

IT IS not often that the Navy list of ships contains two ships with the same name, but this is the case now, as is shown by the recently issued Navy Register. At Port Orford Naval Station the old wooden cruiser Iroquois is stationed, and at Honolulu is also an Iroquois doing duty as a port tug for the use of ships going in and out of that narrow harbor.

A "PRACTICAL Course in Mechanical Drawing," Fox & Thomas. The object of this work is to provide a simple, practical course of progressive lessons in mechanical drawing. The exercises and illustrations are elementary, yet progressive in character. Chapters are given on the use of the T square, triangles and ruling pen, dimension lines, drawing to scale, and the use of the regular instruments used in drawing. The authors state that a second edition will be on the basis of a more scientific work, but the beginner would do well to master the contents of this valuable little volume of about 100 pages before entering into the larger field. From the press of D. Van Nostrand Co., New York. Price, \$1.25.

THE French Society of Colonial and Maritime Studies has appointed a commission to discuss modifications in maritime phrases with the special object of doing away with the use in France of English words, such as steamer, turreted, whaleback, cargo, etc. The Commission will also give exact meanings to French sea terms which now are used without proper precision. The fact that yachting has entered France by way of England accounts for the adoption of so many English words, a condition that is paralleled in the terminizing of sports, such as football and bicycling, which crossed the channel southward. In our own country we find our vernacular harnessed to "automobile," because that vehicle had its first development in France.

REAR ADMIRAL J. G. WALKER, U. S. N., recently in New York on his way to Europe, is quoted as saying: "I don't know how long the Isthmian Canal Commission will be away, or how much time it will take to investigate the Panama canal. That can only be determined after we reach Paris, inspect the maps and drawings, the reports of the engineers and constructors and learn how much time has been spent already, and how much time and money will be required to finish the job. Meanwhile the Nicaraguan canal question is outside of our consideration for the present. Anything that has any bearing upon the Panama canal we are to study and collect. We expect to meet all the noted engineers of France in the course of our research. I hardly think that we will be in a position to say much before next summer."

IN REGARD to Belleville boilers, I am told by a well-known marine surveyor at a leading United States port that there are large installations of those boilers, of about a score of boilers each, on two vessels of the Northern Steamship Co., trading on the lakes between Buffalo and Duluth. They have not, he says, been doing well, 10 per cent. of the installations having been always out of service for repairs. The coal consumption he describes as "something enormous." It is difficult to keep firemen on these boats. They generally have to be changed every voyage, the work being so hard and the risk of accident so considerable. My informant says: "The failure of these boilers in America cannot be due to salt water, seeing that the boats trade on fresh-water lakes." He adds that a steamer fitted with an installation of eight large boilers of another water-tube type has lately been refitted with cylindrical boilers, the result being that the speed of the vessel has been increased from 17 to 19 knots.—*Fairplay*, London.

THOMAS CURTIS CLARKE, past president American Society Civil Engineers, writing to the chairman of the committee on canals, State of New York, says: "I am advised that the Ottawa Navigation Co., formed to improve that river from Montreal to Georgian Bay on Lake Huron to 15 feet deep, has now been financed in London, and if so, it will be built during the next three years. The cost of sending a bushel of wheat from Duluth or Chicago to Liverpool by this route would be 8.75 cents, as against 12 cents to 12.25 cents via New York and Erie canal as at present. But, if the Champlain route, leaving the Ottawa route above Montreal and going to New York through Lake Champlain and the Hudson river were improved to 14 feet depth, the cost from Chicago or Duluth to Liverpool via New York would be reduced to 9 cents per bushel. The cost of sending wheat would be 1.53 cents per bushel less by this Ottawa-Champlain route than the cost of sending wheat from Chicago to Liverpool by the Erie canal, even if enlarged to a 10 feet draft."

THE MARINE RECORD

TREASURY DECISIONS.

REGISTRY OF FOREIGN-BUILT VESSELS.

A foreign-built vessel, purchased by the government, when sold to a citizen, is not entitled to be registered as a vessel of the United States by reason of her former ownership by government. Special legislation is necessary.—Scipio case.

TREASURY DEPARTMENT, Aug. 10, 1899.

SIR: I have the honor to acknowledge the receipt, by reference, of a letter from the honorable the Secretary of the Navy, requesting that you obtain the opinion of the honorable the Attorney-General as to the right of the Scipio, a foreign-built vessel, owned by the Navy Department, to American registry, if sold to an American citizen. This matter was fully considered in a letter and inclosure addressed by you to the Secretary of the Navy on July 1, but this office will be pleased to have the opinion of the Attorney-General.

The Secretary of the Navy appears to be in error in the opinion that unless registered the Scipio must sail under a foreign flag. She can sail under the American flag, but is barred from certain privileges, including participation in the coasting trade, which are reserved to vessels of the United States.

The statute, which is an obstacle to the registry of the Scipio, undoubtedly relates to vessels in private ownership. No request has been made for the issue of a register to a vessel of the government, for such vessels are not subject to the registry laws. Registers are issued to vessels engaged in foreign commerce, and the laws do not contemplate that vessels of the Navy shall engage in trade. Accordingly, the citation (XIII, Op. Atty. Gen. 248) is not applicable to the Scipio.

The explicit prohibition against the registry of the Scipio is found in section 4132 of the Revised Statutes (act of December 31, 1792). The opinion of Attorney-General Black quoted construes the act of December 23, 1852 (Rev. Stat., 4136), a totally different provision of law. That section relates to foreign-built vessels wrecked in the United States, and the Attorney-General held:

Does this case come within the act of 1852, so as to entitle the vessel so purchased and repaired to a registry? Literally it does not, for the words of the act require the vessel to have been built in a foreign country; whereas this vessel was built here and became a foreign vessel by the transfer of it to a foreign owner.

The opinion of the Attorney-General in this case was in the line of the fixed policy of the law to encourage domestic ship building. It does not seem to be applicable to a proposition counter to fixed policy.

The bureau is aware of no instance where the place of construction has been eliminated from consideration in the interpretation of the registry laws in the case of vessels sold by the United States or by private parties. The article from the customs regulations quoted relates merely to the owner's selection of a name for a vessel purchased from the government, and for obvious reasons has not been regarded as a reversal of public policy settled by statute.

The question which the Secretary of the Navy desires to have submitted to the Attorney-General is important, as a score of foreign-built merchant steamships, aggregating nearly 100,000 tons, and valued at perhaps \$6,000,000, have been purchased by the War and Navy Departments.

I am confirmed in the decision that Congress did not contemplate a breach in the registry laws when the government was empowered to buy foreign-built merchant vessels for war purposes by the action taken in the matter of the tariff. Joint Resolution No. 19, approved April 1, 1898, reads:

Be it resolved, etc., That such guns, ammunition, and other naval and military supplies as may be purchased abroad by this government prior to January 1, 1899, shall be admitted at any port of entry in the United States free of duty.

No similar action was taken by Congress for a suspension of the registry law in the case of vessels purchased abroad by this government prior to Jan. 1, 1899, at the session of 1898 or 1899. During the session of 1898, Congress, however, in specific instances, departed from the general policy by authorizing the registry of certain foreign-built vessels, desired by the War Department for use as transports. (30 Stats. at Large, 420, Catania and Centennial; 421, Zealandia; 432, China; 473, Arizona; 475, Unionist and Specialist.) In the case of the Unionist and Specialist, Congress specifically provided that the vessels should not engage in the coasting trade. The privilege of engaging in the coasting trade is the consideration which will give to the Scipio enhanced value, if she should be admitted to American registry.

Respectfully yours,
EUGENE T. CHAMBERLAIN,
Commissioner.

The Secretary of the Treasury.

[OPINION OF ATTORNEY-GENERAL.]

DEPARTMENT OF JUSTICE, }
WASHINGTON, D. C., Aug. 11, 1899. }

SIR: I have the honor to acknowledge the receipt of your communication of this date, in which you request my opinion as to whether the Scipio, a foreign-built steamship purchased by the Navy Department for its use in the recent war with Spain, and subsequently sold to and now owned by an American citizen, is entitled to registry under the laws of the United States relative to the registry of vessels.

The regulation of commerce and navigation is a subject entirely within the control of Congress, and, except in accordance with such laws as have been passed by Congress

upon this subject, no authority exists in the Executive Departments to make or enforce rules or regulations relative to the registry of vessels or kindred matters connected with commerce and navigation. Congress has specifically legislated upon the subject of the registry of vessels. Section 4132 of the Revised Statutes describes the vessels that are entitled to be registered in conformity to the directions of the subsequent sections of the same title. That section reads as follows:

"Vessels built within the United States and belonging wholly to citizens thereof, and vessels which may be captured in war by citizens of the United States, and lawfully condemned as prize, or which may be adjudged to be forfeited for a breach of the laws of the United States, being wholly owned by citizens, and no others, may be registered as directed in this title."

This is a positive and specific direction as to what vessels may be and what may not be registered. Doubtless it would be advantageous to permit vessels of the character of the Scipio to be admitted to the rights of local registry equally with vessels condemned as lawful prize and sold as such under the authority of the government. But Congress has provided for the registry of vessels of the latter class, and has forbidden the registry of vessels of the former class. It is unusual to find in a public statute a provision whose terms are as clear and explicit as are the provisions of section 4132.

The Commissioner of Navigation, in his letter to you of August 10, transmitted with your request, discusses fully, and in my judgment correctly, the legal considerations connected with a construction of the law. I have to advise you, therefore, that, under the facts stated to me, the Scipio is not entitled to registry. Very respectfully,

JOHN W. GRIGGS, Attorney-General.

The Secretary of the Treasury.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—ILLINOIS.

TREASURY DEPARTMENT, }
OFFICE OF THE LIGHT-HOUSE BOARD, }
WASHINGTON, D. C., Aug. 16, 1899. }

WAUKEGAN HARBOR LIGHT STATION.—Notice is hereby given that, on or about August 31, 1899, a fourth-order light, fixed white for 20 seconds followed by four red flashes at intervals of 5 seconds, will be established in the structure recently erected on the outer end of the south pier at the entrance to Waukegan harbor, westerly side of Lake Michigan.

The light will illuminate the entire horizon.

The focal plane of the light will be 37 feet above mean lake level and the light may be seen 13 statute miles in clear weather, the observer's eye, 15 feet above the water.

The structure is a cylindrical iron tower, painted buff, surmounted by a cylindrical, black, iron lantern. An elevated walk extends 400 feet along the pier shorward.

Bearings (true) and distances of prominent objects from the tower are: Grosse Point light-house, S. $20^{\circ} 30'$ E. (S. by E. $\frac{1}{2}$ E.), $21\frac{7}{15}$ statute miles; Waukegan old light-house, S. 59° W. (S.W. by W. $\frac{1}{4}$ W.), about 2,900 feet ($\frac{9}{10}$ statute mile).

WAUKEGAN HARBOR BEACON LIGHT.—Notice is hereby given that, on or about August 31, 1899, this fixed red lantern light, on the outer end of the north pier at the entrance of Waukegan harbor, will be discontinued.

By order of the Light-House Board:

FRANCIS J. HIGGINSON,
Rear-Admiral, U. S. Navy, Chairman.

MARINE PATENTS.

Patents on marine inventions issued August 15, 1899. Reported specially for THE MARINE RECORD. Complete copies of patents can be furnished at the rate of 10 cents each.

630,879. Drawbridge. C. F. Franson, St. Louis, Mo., and Edward Wilmann, Chicago, Ill.

630,889. Turret. H. P. Hurst, Summit, Mass.

630,962. Sounding machine. C. W. Wood, New Orleans, La.

630,973. Liquid-balance rudder-brake. Jorgen Christensen, San Francisco, Cal.

631,066. Boat-lowering apparatus. A. G. Des Fours, Zurich, Switzerland.

631,154. Apparatus for applying anti-fouling coatings. G. D. Coleman, Bridgewater, Mass.

631,168. Mooring device. F. B. Langston, New York, N. Y.

631,178. Wave-motor. Thos. Redding, Seattle, Wash.

631,226. Boat-lowering appliance. F. R. Patey, Belfast, Ireland.

631,268. Rudder. Frederick Baldt, Chester, Pa.

631,262. Side light for ships. Peter Fyfe and Alexander Phillips, Glasgow, Scotland.

631,308. Torpedo-launching apparatus. Emil Kaselowsky, Berlin, Germany.

631,320. Caisson. J. F. O'Rourke, New York, N. Y.

631,417. Marine vessel. C. L. Burger, New York, N. Y.

631,491. Preventing accidents on drawbridges to electric ears. S. L. Phillips, Washington, D. C.

631,637. Dumping-scow. J. J. Haslam, Avondale, New Zealand.

631,698. Hydraulic system for closing bulkhead doors. W. B. Cowles, Cleveland, Ohio, assignor to the Long Arm System Company, same place.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Master's Liability.—It being the duty of the owners of a vessel, to one employed by them thereon to do any services that he might be called upon to do, to supply a good reefing pennant; and he, through their failure to do so, having been injured while reefing the sail as directed, they are liable, whether or not their failure was due to negligence. Silveria vs. Iverson et al., 57 Pac. Rep. (Cal.) 996.

Duty to Observe Weather Signals.—Navigators of tugs towing on the Hudson river are not chargeable with negligence in failing to observe the signals, or to keep themselves advised of the predictions of the Weather Bureau as to coming storms along the Atlantic coast, it appearing that it is not customary to regulate navigation on the river by such predictions, and there being no evidence that such navigation is ordinarily affected by storms along the coast. The Victoria, 95 Fed. Rep. (U. S.) 184.

Fault of Vessel—Action in Emergency.—Where the failure of a tender of a bridge across a navigable river to open the draw in time for the passage of a steamer approaching from up the stream, imposed upon those in charge of the vessel, the necessity of hasty action to prevent a collision with the bridge, an error of judgment on their part, committed in the haste and confusion incident to the situation, will not be imputed to the vessel as a fault. Boland et al. vs. Combination Bridge Co., 94 Fed. Rep. (U. S.) 888.

Collision—Negligent Navigation of Tug Along Piers.—Laws N. Y. 1897, c. 378, § 879, making it unlawful for vessels to obstruct navigation in the East and North rivers by lying outside the piers, except at their own risk of injury from vessels entering or leaving any adjacent dock or pier, does not effect the right of a vessel lying beyond the end of a pier to recover for an injury caused by a collision with it, of a passing tow through the negligent navigation of the tug, which was neither entering nor leaving an adjacent dock. The F. W. Devoe, 94 Fed. Rep. (U. S.) 1019.

Costs in Admiralty—Suits in Rem—Expense of Procuring Release Bond.—Where the claimant of a libeled vessel gives a bond for her release, and decree is eventually rendered in his favor, the expense actually incurred by him in procuring the execution of the bond for her release by a surety company, is a legitimate item of costs, to be taxed in his favor. The release of a vessel on bond is not merely an accommodation to the claimant, but inures to the benefit of other litigants by relieving them from the expense of her custody, and the court will exercise its discretion in awarding costs in a manner to encourage the substitution of bonds. The South Portland, 95 Fed. Rep. (U. S.) 295.

Limitation of Liability for Loss of Baggage—Validity.—A stipulation in a passenger ticket for second-cabin passage, which limits the liability of the carrier for loss of baggage to 250 francs, unless the passenger declares the value of his baggage in excess of such amount, pays for the transportation of the excess in proportion to its value, and takes a bill of lading therefor, is not so unreasonable as to be void, as against public policy. Such a provision, though in terms limiting the liability of the "ship owner or agent" only, inures to the benefit of the ship itself, when sought to be held by proceedings in rem solely on the ground that the owner did not fully perform the contract. The Kensington, 94 Fed. Rep. (U. S.) 885.

Admiralty—Suit in Rem—Procedure on Insolvent of Security on Release Bond.—In a suit in rem for collision, where the vessel attached had been released on stipulation, on the insolvency of claimant's sureties an order was made pursuant to a rule of court, requiring the claimant to furnish additional security, and, on a failure to comply with such order, the claimant's answer was stricken out, and a decree entered pro confesso for an amount of damages ascertained on a reference by a commissioner. Held, that the striking out of the answer and entry of the decree could not be deemed a punishment of the claimant for failure to obey the court's order, but was a proper procedure to bring to an end a proceeding in rem in which, through the fault of the claimant, the libelant had neither the res nor security. The Fred M. Lawrence et al., 94 Fed. Rep. (U. S.) 1017.

Navigable Waters—Bridges—Failure to Open Draw for Passage of Vessel.—A steamer passing down the Missouri river at 5 o'clock in the morning, on approaching a bridge, and discovering that the draw would not be opened in time for its passage, attempted to make the shore, but struck some sunken piles, and was injured, and, being unable to pass the obstruction, was carried by the current down against the draw, then partially opened, and received further injury, which caused her to sink, and she became nearly a total loss. The failure to open the draw for the passage of the boat was due to the negligence of the bridge tender employed by defendant, owner of the bridge, who had been notified of the time she would pass down, but who was not on hand. Held, that his negligence, for which defendant was responsible, was the cause of the injury of the vessel as well from the collision with the piling as with the bridge, it appearing that she was free from fault, and that the defendant was liable for her value, less the value of such parts as might have been saved by reasonable diligence and effort after she sank. Boland et al. vs. Combination Bridge Co., 94 Fed. Rep. (U. S.) 888.



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CLEVELAND, O., AUGUST 24, 1899.

THE SHAMROCK and her gallant crew are entitled to almost everything they wish for except the America's cup. We must keep an eye on the Shamrock and both hands and feet on the cup.

THE yacht Shamrock has been insured in London for one year on a valuation of \$190,000 at 26 per cent. It is understood that some reinsurances have been placed at rates ranging up to \$31. The Shamrock has been given somewhat of a special policy, eliminating racing risks and other particulars.

WITHIN the week, two inquiries have been brought to our notice, showing that collectors of customs were not quite clear regarding the construction to be placed on the law licensing masters and mates of sailing vessels of 700 tons and upwards. The Supervising Inspector-General of Steamboats promulgated his decision relative to this law last February, several weeks later, the RECORD re-announced the Inspector-General's rendering of the law, and last week the Collector of Customs at Cleveland learned what action was required of him in the matter. Truly, these innovations take a long time to ventilate themselves.

THE great yachting event on the lakes this week is the race between the Rochester yacht Genesee, and the Toronto yacht Beaver. The first race on Monday was laid out over a 21 mile triangular course off Toronto. The Beaver carried away her throat halyards early in the race and was towed back, while the Genesee couldn't find the buoys marking the course, so the heat was declared off. On the next attempt the Rochester yacht had the best of it at the finish by a little over one minute. The Canadians now hold the cup and we want it. The first conquer was by a narrow squeak, so was the second, still, if one more is squeezed in like it the victory will be won.

AND now we are looking for another artificial outlet from Lake Erie to correspond with the drainage canal at Chicago. An eminent engineer has been appointed to the Canal Advisory Board who is making a survey to determine the feasibility and probable cost of building a new section of the Erie canal to go around the Montezuma marshes, from Newark to a point near Syracuse, so as to make it possible to utilize the waters of Lake Erie for feeding purposes clear through to the Hudson. It is believed by the board that if the dip in the canal at Montezuma swamp can be overcome, the canal can be deepened to fourteen feet, and it can be made into a barge canal and fed by Lake Erie waters over its entire length, thus making a continuous flow to the Hudson river.

THE handsome racing machine Shamrock having reached New York with her steam tender on August 18th, after a passage of about 16 days, will certainly have time enough to practice before she is called on to step out, or in, and sail for the America's cup. The first race is to take place on Tuesday, October 3, and continue each alternate day thereafter until the three winning races out of the five heats, or wets, or trials of speed shall have been determined. The owner of the Shamrock is a true sportsman, at least we are generally informed that he is imbued and endowed with the, or a, sportsmanlike spirit, of this, however, we know absolutely nothing. We do know that there should be nothing like the Dunraven fiasco in this bout. A fair, square, clean cut and smart conquer is all that is asked for the Columbia, one jot less and the Shamrock can take the honors. The New York Yacht Club must not fail one iota in their courtesy to the visiting yacht. The race track should be adequately patrolled and the stranger given every facility possible under the circumstances. All hands will trust to the prowess of the Columbia and hope that she may skillfully defend the cup, also, that she may make and gain a record in yacht sailing by doing so. This argues for a sailing race, not a drifting match. Be sure that none but Americans are on guard, and, to the victor will the honors be due. Capt. Barr is a tip-top skipper, but we don't want an Englishman to win the race for us when there is such excellent skill to choose from among the Down East handlers of fore and aft canvas, it wouldn't be asked, or looked for either, under square canvas.

The steel towbarge Manila owned by the Minnesota Steamship Co., Cleveland, holds the record for carrying the largest cargo through the "Soo" locks, viz.: 8,205 tons of iron ore on a draft of 18 feet 1 inch. Nothing had ever carried as high as 8,000 tons through the lock before. This pile of iron ore, walked away with at the rate of eight or nine miles an hour on the end of a steel tow line is surely an eye opener to ocean, coast, gulf and river transportation interests, customs and practice.

THE WELLMAN ARCTIC EXPEDITION.

A dispatch from the island of Tromsøe, Norway, states that Walter Wellman and the survivors of the Polar expedition led by him arrived safely on the steamer Capella, having successfully completed their explorations in Franz Josef Land. Mr. Wellman has discovered important new lands and many islands. Mr. Wellman and his companions found no trace in Franz Josef Land of the missing aeronaut, Prof. Andree.

The Wellman expedition, headed by Mr. Walter Wellman, an American journalist, who had already passed eight months in the Arctic regions, left Tromsøe on June 26, 1898, for the purpose of exploring high latitudes, and after stopping at Solombolo, near Archangel, sailed for Franz Josef Land on the ice steamer Fritjof, loaded with scientific instruments, dogs, sledges and provisions.

On August 30th of last year, the Fritjof arrived at Tromsøe, Norway, and reported that Mr. Wellman had landed an expedition at Cape Tegethoff, establishing also a supply house at or near Cape Flora (lat. 80°). This was the last definite news regarding the undertaking and some anxiety had been felt as to the fate of Mr. Wellman and his associates.

Mr. Wellman, who is a native of Ohio, and was formerly a well-known Washington correspondent, has always been interested in the literature of the Arctic exploration, and in 1893 he attempted to reach the North Pole. His ship, the Ragnvald Jari, was crushed in the ice. In the present expedition he planned to push forward into the northern part of Franz Josef Land, which had been explored as far north as 82 degrees.

SCHOONER HUNTER SAVIDGE CAPSIZED.

The small schooner Hunter Savidge, Sarnia to Alpena, light, 152 tons, built at Grand Haven in 1879, and owned by John Muellerweiss, Alpena, capsized in a squall off Point Aux Barques, Lake Huron, on Sunday afternoon, with the loss of five lives. The master, Capt. Sharpstein, and Francis Johnson, seaman, were picked up by the steamer McVittie, and safely landed.

The lost are Mrs. John Muellerweiss and daughter Etta, Mrs. Fred Sharpstein and son, John Duley, mate.

As the vessel was light she may be floating bottom up, and search has been made for her since Sunday, but without success up to this time.

LAKE FREIGHTS.

The iron ore rate from the head of the lakes has now gone up to \$1.40, with shippers skirmishing after tonnage; \$1.50 and \$1.55 paid on a few special cargoes and the free, or unchartered tonnage watching the steady raise for a \$2.00 rate. Quoted rates are \$1.15 Marquette and \$1.00 Escanaba to Ohio ports. These rates are nominal with light chartering, and \$1.10 asked from Escanaba.

Grain rates advanced to 2 3/4 cents on corn with brisk chartering Chicago-Buffalo, equal to \$1.10 on Escanaba ore, hence, the light chartering from that port and Marquette. The Duluth rate is very firm at 3 3/4 cents to 4 cents and September fixed ahead at 4 1/2 cents, this latter rate being a little better than \$1.60 on ore.

Coal freights are hanging at 80 cents from Ohio ports and up to 90 cents on special cargoes to Lake Michigan, 85 cents paid Toledo to Milwaukee, Lake Superior, quoted, 50 cents, with very light chartering, 10-cent advance to minor ports, 60 cents from Buffalo. It is generally thought that better than 50 cents is being paid to the head of the lakes all around.

Lumber freights are firm with brisk chartering at \$1.50 per M. feet in the Lake Michigan trade, with unusual concessions, and an increase to \$2 looked for. The Lake Superior rate has been \$3 while \$2.75 was quoted and cargoes have been placed at \$3.25 per M. feet, Duluth to Chicago or Lake Erie ports.

Iron ore is still king and rules all freight rates. Ore will be carried at advancing freight rates until the first freeze causes detention, and then grain rates are liable to remain stationary, as some of the big carriers will switch off from the ore trade, as in previous seasons. The question is, on fixing ahead for October-November charters, or, perhaps, there is time enough for that yet, as iron ore must and will be sent forward, nor can the owners of the larger class of boats say just when they will have to stop loading ore, if they could, a majority of the ore tonnage would no doubt be fixed ahead for coal and grain and be turned into that trade at a specified date. Prompt dispatch and single charters to a loading port seems the favorite business just now. The rates are on the improve simply because there are so few bottoms free to charter, coupled with a rush for iron ore.

A GREATER THAN NIAGARA.

A correspondent writing to the Spectator, says the Gersoppa Falls, on the Sharavatti river, in South Kanara, India, are larger and more magnificent than the Niagara. He says: "The river is 250 yards wide; the clear fall is 830 feet. The Gersoppa Falls in the rainy season are incomparably finer than Niagara in every respect. The roar of the falling waters is simply terrific; the whole earth shakes, and the thunder is so great that it completely drowns the human voice. When I visited Niagara and told my American friends about Gersoppa they replied with polite incredulity. 'We never heard of Gersoppa.' I replied: 'Make your minds easy: the people at Gersoppa have never heard of Niagara.' If Niagara could see Gersoppa she would wrap her head in a mist."

LAUNCH OF THE MAUNALOA.

The large steel cargo steamer Maunaloa was successfully launched at South Chicago on Saturday last. Miss Daisy Kennochan, of Albany, N. Y., sister-in-law of general manager Babcock, performed the christening ceremony. The new boat is for the Minnesota Steamship Co., Cleveland, and will carry about 7,000 tons on the present stage of water. She will be ready for delivery in a couple of weeks. There are three other boats to be built at the yards this year, but owing to the present scarcity of material, nothing has been done beyond laying the keels. They will not be ready to launch before winter.

Relative, however, to the lack of shipbuilding shapes, which has been so pronounced during the past few months we quote as follows: It has been learned on unquestionable authority, says the New York Journal of Commerce and Commercial Bulletin, that the Carnegie Steel Co. has placed a contract with the lake combine known as the American Ship Building Co. to furnish beams and plates throughout 1900 and 1901 at current high prices. Furthermore, it was stated that the purchasers wished to contract for their supply in 1902 at the same figures, but the Carnegie company declined the contract. It is further said that the Carnegie company has booked orders already for all the beams and plates that it can turn out to February, 1901.

**LAKE TOWING, WRECKING AND SALVAGE
INTERESTS PLACED UNDER ONE
MANAGEMENT.**

The organization of the Great Lakes Towing Co., which has taken in all the leading tug lines on the lakes with the exception of a few, was perfected at Cleveland on Tuesday. The officials of the trust are still figuring with the owners of the lines that are not in the syndicate and their interests will probably be centered before the close of the season. All the property that was purchased by the organization will be operated by the new company from now on. The general offices of the company will be in the present offices of the Vessel Owners' Towing Co., Main street bridge. The principal officers of the company are Cleveland men, and members of the board of directors and executive committee are among the leading vessel owners on the lakes. The officers elected are as follows:

President and treasurer, T. F. Newman, general manager of the Cleveland & Buffalo Transit Co.; first vice president, Capt. James Davidson, of Bay City, president of the Davidson shipyards; second vice president, A. B. Wolvin, of Duluth; third vice president, Edward Smith, of Buffalo; secretary, H. M. Wardwell, formerly with the Inman Towing Co., of Duluth; general manager, W. A. Collier, manager of the Vessel Owners' Towing Co., of Cleveland; counsel, James H. Hot and Harvey D. Goulder.

Board of directors—W. T. Colmen, of Carpenter, N. J.; Captain James Davidson, of Bay City, Mich.; A. B. Wolvin, Duluth; C. W. Elphicke, Chicago; C. D. Thompson, Port Huron; James Ash, Buffalo; Edward Smith, Buffalo; General George A. Garretson, Cleveland; Captain Thomas Wilson, Cleveland; W. G. Mather, Cleveland; L. M. Bowers, Cleveland; L. C. Hanna, Cleveland; H. G. Dalton, Cleveland; C. E. Grover, Cleveland; T. F. Newman, Cleveland.

Executive Board—James Davidson, A. B. Wolvin, General G. A. Garretson, Captain Thomas Wilson, L. M. Bowers, H. G. Dalton, and C. E. Grover.

General George A. Garretson was made the chairman of the executive board and it was by the action of this body that the officers of the trust were chosen.

After the meeting of the promoters in which the organization was effected President Newman said that he did not intend to sever his connection with the Cleveland & Buffalo Transit Co., as the arrangements are that he shall devote only such amount of time to the syndicate as will not interfere with his present connections.

LETTERS AT DETROIT MARINE POST OFFICE

AUGUST 23, 1899.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Ames, Harrison. Mt. Pelier	Leitch, Hugh
Beck, Robert F.	Mitchell, James
Barnes, Fred, Lansing	Mensen, Anton
Bunce, Geo. M.	McVica, J. M., Geo. Stone
Burkhert, H. L., Orton	McGinnis, A. O.
Cullen, Peter, Manola	McDonald, D. A., Ontario
Cartwright, Winifred	McAuley, Henry
Dobbins, Ed., Montana	Noback, Gus., Niagara
Davis, Fred., Ontario	Oben, Louis, Verona
Delmore, Fred.	Porter, Walter
Fleming, Wm., Centurion	Palmer, Geo. W.
Ford, Louis, Hanaford	Pollock, Robert F.
Foster, J. A., Barr	Rock, Chas. Spencer
Gaskell, Steve, Argonaut	Richings, Chas., Parnell
Graves, Edward	Sherratt, A. S., Huron City
Hall, W. P.	Summers, Frank
Hamilton, Robert	Strickler, Chas., Andaste
Henkel, Robert, Lansing	Scott, James, H. Wells
Jamieson, M.	Thompson, Chas., Keweenaw
Kohson, Fred.	Valentine, Ed., 134
Lourin, Bessie	Van Dusen, Steve.
Latham, Myron	Woods, Charlie

INSPECTING LIFE-SAVING STATIONS.

Capt. J. H. Rogers, of the revenue cutter service, who has been making a tour of inspection of the life-saving stations on Lake Superior and Lake Huron, in the Tenth district, reports that he found them all in excellent condition. He inspected 17 stations in all. Keepers and surfmen at all of the stations are taught the service code of signals that is in use in the army and navy. When the life-saving crews have learned the code, they will be able to receive messages from government vessels approaching the coast in their vicinity, and transmitting them to Washington or elsewhere, as might be desired.

SIBERIA-OHIO COLLISION.

A suit against Secretary of State Hay and the Interlake Transportation Co., was commenced in the Common Pleas Court at Cleveland on Friday, for \$42,364.89. The plaintiffs are Robert R. Rhodes and John W. Moore, owners of the steamer Siberia. The defendants were owners of the steamer Samuel Mather.

The suit is the result of a collision which occurred in Mud Lake May 19, 1890. It is alleged in the petition that the Samuel Mather tried to pass the Siberia, which was going in the same direction, and the suction drew the stern of the latter vessel round so that she struck the steamer Ohio, which was passing in the opposite direction at the time. The Ohio was sunk by the collision, and the owners of the Siberia had to pay the amount named for the loss of the Ohio and her cargo.

The plaintiffs want to compel the owners of the Samuel Mather to recompense them for the damages they were required to pay.

A LIFE-SAVER SAVED.

Dan Lynn, who several years ago was awarded a gold medal by special act of Congress for heroism in attempting to rescue the imperilled crew of the schooner Shupe, ashore on Lake Huron beach in 1894, and being the only survivor of the volunteer crew of life-savers, came near meeting with death by drowning while bathing at Huronia beach, Port Huron. He was overcome from some cause while in the water. Fortunately, however, the body was quickly recovered and efforts of resuscitation were successfully employed. It occurred to quite a number of people at the time, why it was necessary to have a special act of Congress passed before awarding Mr. Lynn a medal for his gallant work on the schooner Shupe, everyone from Duluth to Buffalo had read of and knew about Lynn's gallantry on that occasion, and why the Treasury Department did not immediately proffer the recognition which it is entitled to bestow by act of Congress, was quite a good deal of a mystery. There has been a score of similar cases on the lakes this season, but no one hears of any recognition being made of acts of heroism, further than, perhaps, a newspaper paragraph.

TREASURY DEPARTMENT RULINGS.

Treasury Department decisions ought to be more widely made known on the lakes. Collectors of customs at Milwaukee and Cleveland have been in doubt nearly up to the present, regarding the distinction between sailing and towing schooners. The old bill of health chestnut is also rolling around yet, and vessels being detained on the strength of an order which has been countermanded. There is very little sense in any branch of the Treasury Department acting in such a half secret official manner. All rulings should be more widely advertised.

FOR COAST SERVICE.

The rebuilding of the tug Peter Smith, at Bay City, is well advanced, the work on the hull being almost completed. It is expected that in 30 days she will be ready to leave for the coast almost a new boat. The tug Traveler, now engaged in towing a timber raft, was rebuilt last year, and is in the best of condition, being fitted with a powerful fore and aft compound engine and two new boilers. A condenser for the tug has been ordered and will be ready to be put in by September 1. The Traveler will probably not leave for the coast before October 1.

INCREASING THE OUTLETS.

"I've been closely watching the agitation that is being kicked up about the water power canal on your side of the river, affecting the lake levels," said a well-known Canadian gentleman to the Ste. Marie News the other day. "It may appear a selfish view," he continued, "but, nevertheless, I would like to see the United States government block the enterprise. Not that I believe it will in any way interfere with the lake level, mind you, as that can easily be taken care of. Why do I take this position? Simply because if the development is not made on the American side, it means that we will have a larger canal here. Don't think for a moment that the Canadians will block an enterprise of that character." There is food for reflection in what the Canadian gentleman above referred to, says about the question. The Canadians will probably at some time not far distant, build another canal anyway, and are not likely to ask the Lake Carriers' Association or anybody else about it, either.

FLOTSAM, JETSAM AND LAGAN.

British shipowners have orders out for the construction of 444 vessels, of which 120 vessels are being constructed at Glasgow.

Grain cargoes loaded at Toledo this season unfortunately run short when delivered at destination. Cases of overrun are few and far between.

The men-of-war of the Romans had a crew of about 225 men, of which 174 were oarsmen working on three decks. The speed of these vessels was about six miles an hour.

Fog is responsible, or said to be, for the stranding of the Penobscot on Knife Island last Sunday with a cargo of 3,500 tons of coal. Assistance was sent to her from Duluth and after discharging, she will undergo a survey.

The Times yesterday referred to the low water in the river. It is noticed to-day that the water is nine inches lower than yesterday and several inches less in depth than it has been for three years.—Oswego Daily Times, August 19.

The water in the River St. Lawrence, is considerably lower at present than is usually the case at this time of year. At Lachine it is three inches lower than it was last season, and at Kingston one foot lower, so captains report who take vessels that route.

The government began tearing down the old stone light-house at Port Clinton on Saturday. It is the oldest stone light-house on the shores of Lake Erie. It was built in 1840. The stone taken from it will be used in the foundation for the new light-house there.

Chicago proposes to dam its drainage canal where it discharges into the Desplaines river at an expense of \$265,000, and thus secure 15,000 to 16,000 horse-power for electric lighting and mechanical purposes. A head of sixteen feet can be obtained at the point named.

A lumber firm at Port Wing, Wis., fitted up an old scow with the boiler of an old pile driver and a rear paddle-wheel and used it to carry slabs from the mill to the lumber dock which the firm is building in the harbor. The firm was called to account. There is a fine of \$500 for operating a boat of such a size without having a license.

The light-house supply depot, the only one west of Detroit, and the sole one for the Lake Superior district, is to be located at the lower end of Sugar Island, instead of at the "Soo," as was at first designated. A large warehouse and quarters for a custodian and an assistant will be built. Draughtsman W. F. Boyer, of the light-house department, is making the preliminary surveys.

The American Steamship Company, which owns the boats recently managed by the Zenith Transportation Company, has reported to the Minnesota State auditor the tonnage tax on the five vessels of that fleet. The amount was \$517.95. The American Steamship Company is the name of the corporation controlling the boats owned by the American Steel & Wire Co., Chicago.

The United States Inspectors of Steam Vessels at San Francisco, rendered judgment on the 9th in the matter of the damage to the steam-schooner Weeott, which struck on a rock between Stillwater Cove and Salt Point, Cal., on July 12th of this year. The captain's license was suspended for two months and the mate's license for four months on the ground of negligence. The vessel was damaged to the extent of \$250.

A howl is being raised against the opening of the Chicago drainage canal. Marine men are appealing to the president to have the Secretary of War forbid connecting Lake Michigan with the Illinois river by the big ditch; and the Mayor of St. Louis has added the appeal of his city to the general protest. He claims that the St. Louis water supply comes from the Mississippi river below the outlet of the Illinois, and if the Chicago drainage is turned into that river, it will contaminate the water even as far down as St. Louis.—The Alpena Pioneer.

Here is a rather peculiar item taken from the Boston correspondence of the New York Marine Journal. "To show how active the steam vessel inspectors of this port are, I may state that the side-wheel steamer Putnam has been fined \$500 by the collector of the port for taking a party of excursionists to Gloucester on Sunday last without the necessary license for such a trip. The steamer, which has been running to Lynn regularly, applied through her officers for license to take the party Sunday, but as the paper was not forthcoming, the owners took the responsibility of going without it. As a result of this, Capt. Day has had his certificate suspended for 15 days by the steamboat inspectors, besides the fine.

William Allen, the eminent English naval engineer, showed a scale model of a water-tube boiler at work to the members in the smoking room of the House of Commons. The source of heat was methylated spirit, and the tubes were composed of glass, so that the motion of the water could be observed. Mr. Allen's object was to demonstrate the defective character of the circulation in the boilers, and their consequent liability to burning when the water is temporarily driven back by the generation of steam. The experiments were watched with considerable interest by many of the members, and the results obtained convinced Mr. Allen that a return to the old style boilers in the navy is desirable. Mr. Allen is opposed to the Belleville and Babcock & Wilcox boilers being introduced in the British navy.—American Shipbuilder N. Y.

Almy's Patent Sectional WATER TUBE BOILERS.

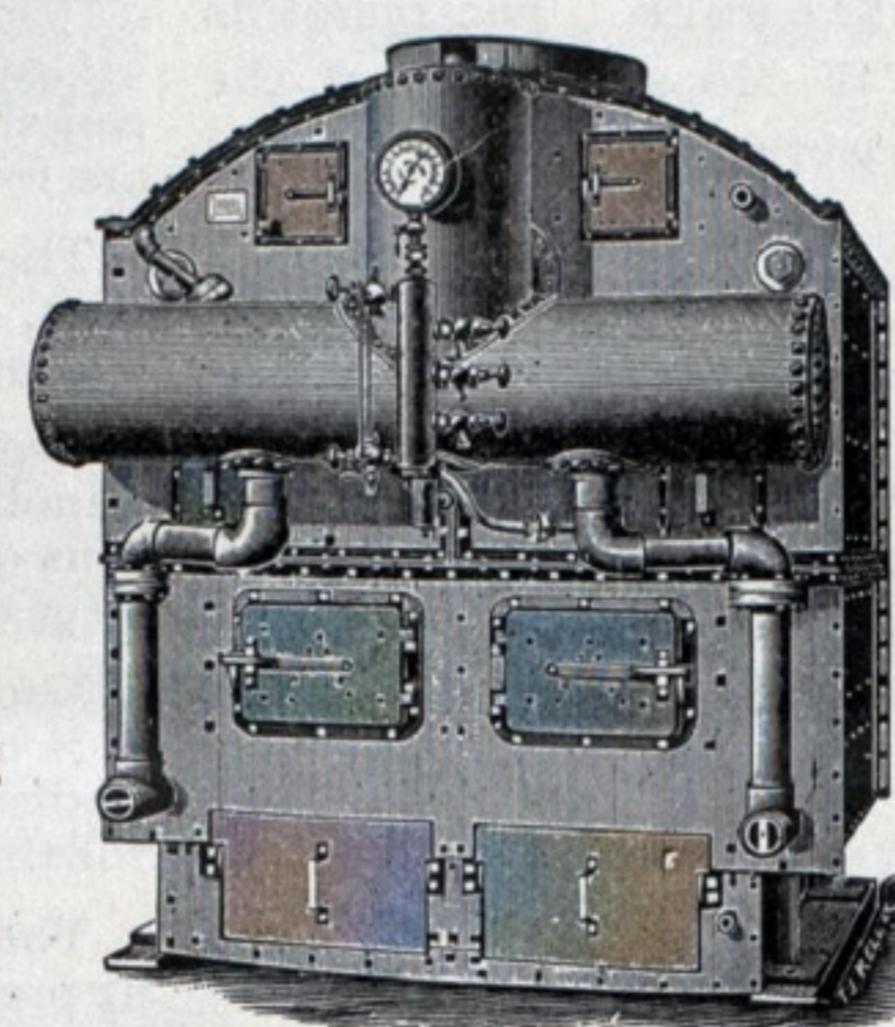
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THE MAGNETIC NEEDLE.

(CAMDEN J. WELLER IN THE ENGINEER.)

The name magnet (magnes lapis) was given to certain hard, black stones found in various parts of the world, notably at Magnesia in Asia Minor, which possess the property of attracting to them small pieces of iron. This magnet property as they deemed it, made the magnet stone famous; but it was not until the tenth or twelfth century that such stones were discovered to have the still more remarkable property of pointing north and south when hung up by a thread. This property was turned to advantage in navigation, and from that time the magnet received its name of lodestone or, "leading stone." The natural magnet, or lodestone, is an ore of iron, known to mineralogists as magnetite. This ore is found in quantities in Sweden, Spain, the Isle of Elba, and Arkansas. While it is customary to speak of the magnetic needle as pointing toward the north pole yet there are, in reality, but few places on the earth's surface where the needle will point directly toward the geographical north and south poles. The earth is a great magnet but the magnetic north pole of the earth is more than 1,000 miles away from the actual pole, being in latitude $70^{\circ} 5'$ N. and longitude $96^{\circ} 46'$ W. There appears to be two south magnetic polar regions. In consequence of this natural distribution, the compass needle will at some places be deflected west of true north and at other places to the east of true north.

This angle between the magnetic meridian and the geographical meridian of a place is called the declination of that place. The angle of this declination was discovered by Columbus in 1492. In order that ships may steer by the compass, magnetic charts must be prepared, and the declination at different places accurately measured, which is done by the "azimuth compass."

As previously stated there are a few places where the magnetic needle will point directly toward the north, there being three such places in the United States—Lansing, Mich. Columbus, O., and Charleston, S. C.

The lines of magnetic force cause the magnetic needle to dip toward the earth as we approach the north. At the north pole the magnetic needle will point straight down. This tendency to point down is termed the inclination of the magnetic needle. Another peculiarity of the laws of magnetic force is that the dip or inclination like the declination, differs at different parts of the earth's surface, and that it also undergoes changes from year to year. The "dip" in London for the year 1894 was $67^{\circ} 18'$, and in 1900 it will be $67^{\circ} 9'$. In 1900 the magnetic needle will be deflected to the west at London, $16^{\circ} 16'$; at Berlin, $9^{\circ} 30'$; at Paris, $14^{\circ} 30'$; at Rome, $10^{\circ} 0'$; at New York, $9^{\circ} 12'$; at Washington, $4^{\circ} 35'$; Capetown, $29^{\circ} 24'$; Tokio, $4^{\circ} 6'$. Also in the year 1900 the magnetic needle will point east of true north at St. Petersburg $0^{\circ} 30'$; San Francisco, $16^{\circ} 42'$; Mexico, $8^{\circ} 0'$; Sydney, $9^{\circ} 36'$; Hobarton, $25^{\circ} 0'$; Bombay, $0^{\circ} 36'$.

I have already mentioned that both the declination and the inclination are subject to changes. Some of these changes take place very slowly, others occur every year and others again every day. Those changes which require many years to run their course are called secular changes.

The variations of the declination previous to 1550 are not recorded; the compass at London then pointed 11° east of true north. This easterly declination gradually decreased, until in 1657 the compass pointed true north. It then

moved westward, attaining a maximum of $24^{\circ} 27'$ about the year 1816, from which time it has slowly diminished to its present value ($16^{\circ} 57'$ in 1894). In London it requires about 320 years to complete the cycle of change. Both compass and dipping needle, if minutely observed, exhibit slight daily motions. About 7 a. m. the compass needle begins to travel westward with a motion which lasts till about 1 p. m.; during the afternoon and evening the needle travels back eastward, until about 10 p. m.; after this it rests quietly, but in the summer time the needle begins to move again slightly to the west at about midnight, and returns again eastward before 7 a. m. These delicate variations—never more than $10'$ of arc—appear to be connected with the position of the sun. The moon also exercises a minute influence upon the position of the needle. General Sabine discovered that there is a large amount of variation of the declination occurring about once every eleven years. These periods coincide with the periods at which there is a maximum of spots on the sun.

VESSEL TRANSFERS.

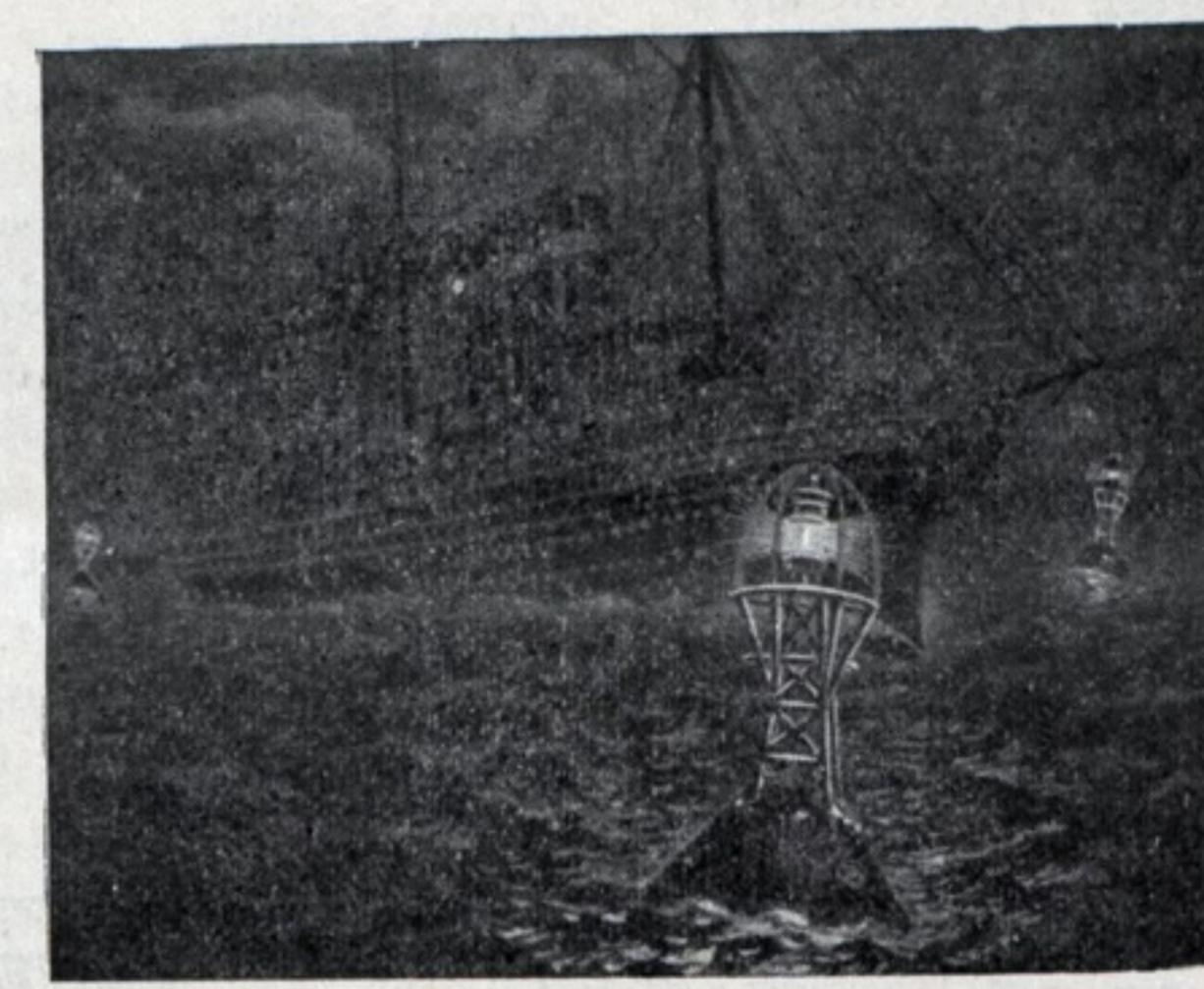
Latest transfers of vessel property recorded at the Milwaukee customs office are the following: Schooner Lucia A. Simpson, Gustav T. Claussen to Charles J. Shanderson, of Milwaukee, one-third, \$700; same to Henry Durbin, of South Milwaukee, one-third, \$700; schooner Sardinia, William H. McDonald, of Sheboygan, to Max and Ernest Pfeil, of Milwaukee, the whole, \$500; schooner Eliza Day, Martin Johnson, of Sheboygan, to Martin Mathison, John Mueller and Oscar Mueller, one-half, \$700; steamer Nebraska, Fredrick D. Underwood, of Baltimore, Md., to William E. Fitzgerald, of Milwaukee, one-tenth, nominal consideration. Steamer Mary Mills, has been sold to the Hiltz Lumber Co., for \$2,000. A. Abrahamson, of Chicago, has sold the schooner Magdalena to Ole Christiansen, of Detroit Harbor, Wis., for a nominal sum. Andrew Nelson, has sold the schooner John C. Bauer, to Thomas Thompson, also for a nominal amount.

A SUCCESSFUL TOWING FEAT.

An unusual and rather dangerous feat of towing was performed at Lachine, Que., on Thursday last. Davis & Sons, contractors for the Montreal waterworks, had a dredge and three scows working just abreast of the big chute in the Lachine Rapids, known as Verdun, or the Lost Channel. As the dredging job was completed they wished, if possible, to take the dredge and scows out of the rapids and use them elsewhere. When this was spoken of most men shook their heads as though the feat was impossible. The Calvin Wrecking Co., L'td., Kingston, Ont., being applied to, at once surveyed the channel and placed buoys on the shoals. Their wrecker, Capt. O'Brien, with two powerful steamers, was sent down and the steamers placed as near to the dredge and scows as possible without descending the rapids. From there about half a mile of steel wire cable was dropped down to the dredge and scows, and with the powerful steam winches on one of the steamers they were drawn up one by one until they reached the stern of the first steamer, when both steamers put on full steam and towed them up the seething current through the Lachine bridge and thence into the canal. This is considered one of the most risky and successful towing jobs ever accomplished in the locality of the St. Lawrence.

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We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

INVENTORS' PROSPECTS.

BUFFALO, Aug. 22, 1899.

To the Editor of the Marine Record:

DEAR SIR: I have a good patentable invention, partly for marine uses; which is the best way to put it on the market with advantage to myself? Respectfully,

INVENTOR.

If our correspondent has means sufficient to incur patent and advertising expenses he can work out his problem on the same lines as any other commercial speculator and take the same chances. But his question is a difficult one if, as is often the case, his funds are small, in which circumstances we would advise him not to put forward any claim for a patent until he has a sure chance of support after it is granted him. He may get any amount of promises, but he must have something tangible. At the least, his prospective backers ought to put down the money for patent expenses, which guarantees their good faith and makes them take an interest in the venture afterwards. But, if they will do nothing till they see the patent granted, he may be quite sure he will get left. It is one thing to promise financial or commercial support, and it is quite another thing to advance funds. One word more. An invention, valuable enough to patent, original, and of practical benefit, is not always a commercial success. Interest capital, and go ahead with your invention, without being too squeamish regarding all your fancied rights. The way to do a thing is to do it.—ED.

NEW LIFE-SAVING STATIONS.

Proposals were opened in the Treasury Department at Washington on Friday last for the construction of life-saving stations at Charlevoix and Grand Marais. The lowest bid for the work at Grand Marais, \$4,576, was submitted by Charles Hoertz, of Grand Rapids. Other bidders were Gearing Brothers, Ltd., Detroit, \$6,632; Alexander Cameron, \$4,624. Frank R. Speare, of Rockland, Me., submitted a bid of \$6,280 for the Grand Marais station. Michigan bidders were; Henry C. Koumeier, Port Huron, \$7,950; Gearing Brothers, Detroit, \$7,284.

Shipping—Destruction of Passenger's Baggage—Negligent Stowage.—Libelants were passengers on a trans-Atlantic steamer, and their trunks, constituting their baggage, with those of other passengers, were broken to pieces, and the contents destroyed, during the voyage. The vessel encountered unusually rough weather on the passage, and rolled heavily. A witness for libelants, who entered the compartment where the baggage was stowed immediately on the opening of the hatch at the end of the voyage, testified that he examined carefully, but could find no evidence that the trunks had been lashed or otherwise secured against movement in rough weather, and the compartment was not filled. Held, that in the absence of any evidence on the subject from claimants, such testimony was sufficient to support the libelant's contention of negligent stowage. The Kensington, 94 Fed. Rep. (U. S.) 885.

CLEVELAND'S MODEST ASSUMPTIONS.

A manual of the City Council and the municipal government of the city of Cleveland has just been compiled and issued by the City Clerk, Howard H. Burgess. It contains many statements regarding the city, the most important of which, from a marine standpoint, are as follows:

In its highest portions near the shore, Cleveland is about seventy-five feet above the lake level. At the Public Square it is ninety-six feet, and at High street it reaches a height of 115 feet.

The County court house is $81^{\circ} 42' 6''$ west of Greenwich, England.

From the court house the city lies in latitude $41^{\circ} 30' 5''$ north.

The estimated population at the end of 1898 was 393,000.

The city of Cleveland is the largest city in Ohio, and the largest between New York and Chicago.

It is a fact capable of demonstration that all parts of the United States have been so fully explored, and railroad routes so fully laid out, that the size of all the large cities has already been determined. Cities established in favorable locations will henceforward gather to themselves the growth of the future. With such advantages as Cleveland possesses, it must inevitably increase in wealth and population much faster in the future than in the past. Cleveland is already the largest city on the Great Lakes with the exception of Chicago.

Cleveland is the greatest iron ore market in the world. The Lake Superior iron ore industry and its distribution, representing an investment of over \$175,000,000, are centered here.

Cleveland is acknowledged to be the economic center for the manufacture of iron and steel and their products. Something over 400 factories employ 50,000 operatives, of whom only 5,000 are women and juniors. It produces more wire and wire nails than any two cities in the world.

Cleveland takes the first rank in the United States in the production of steel ships, malleable castings, heavy machinery, wire and wire nails, bolts and nuts, carriage hardware, shoddy and blankets, small printing presses, sewing machine cabinets, vapor stoves, electric carbons, electro dynamos, steel tired car wheels, heavy forgings, paints, varnish, ball bearings, etc.

Cleveland is the largest shipbuilding port in the United States, as shown by the last census. Its shipyards turned out more tonnage in 1895 than the aggregate product of all other shipyards on the Great Lakes. The lake tonnage owned in Cleveland represents more than \$20,000,000; surpassing every American city except New York. Aggregate tonnage of vessels owned in Cleveland is over 298,735 tons. Eighty per cent. of the tonnage used in the iron ore traffic—the greatest on the lakes—is owned in Cleveland. 2,986,701

gross tons of iron ore were received at Cleveland docks in the season of 1898. 6,494 vessels were entered and cleared at the port of Cleveland in the season of 1898, the tonnage represented being 7,188,564. Between 1880 and 1897 the tonnage entered and cleared increased 169 per cent.

QUESTION?

In the Court of Inquiry in the case of Capt. William C. Brickley, of the U. S. transport McClellan, an interesting and important question comes up as to who is the actual commander of a transport. The captain was charged by Capt. Louis A. Garrard, Q. M. Dept., U. S. A., with insubordination while the McClellan was in the harbor of Gibara, Cuba, on Saturday, July 29 last. Capt. Garrard is the military commander of the transport. The facts of the case as given in brief are that while the McClellan was in the harbor of Gibara, Cuba, discharging her cargo of stores, Capt. Brickley, the civilian navigator, noticed that the barometer was falling with great rapidity and that there were other indications of a storm approaching. He was responsible for the safety of the ship and wanted to take her out to sea so as not to be caught in the harbor in a gale. Capt. Garrard, quartermaster of the ship, objected to the sailing of the ship until her cargo should be discharged. Capt. Brickley insisted that, as he was responsible for the ship's safety, he was entitled to do as he thought best under the circumstances. The discussion became heated and finally Capt. Brickley was placed in charge of an armed guard, and compelled to leave the ship, and was brought to New York city for trial. The proceedings of the court have been forwarded to Washington.

In thus stating the case from a candid and unbiased standpoint the Army and Navy Journal, New York, believes that so long as the present system of having civilian navigators and military officers exercising dual control over transports, there is bound to be trouble, and clashes of authority. The civilian navigator's first thought is, naturally, the safety of his vessel, while the military officer seeks to carry out his orders when he thinks it necessary, regardless of risk.

Let us say that in the face of the weather indications Capt. Garrard appeared to act very unadvisedly. The safety of the ship meant the eventual delivery of her cargo, so that Capt. Brickley seems to have judiciously considered his responsibility while the other man was a stickler for form and prejudiced views of authority, irrespective of judgment, or the unwarranted possible loss of lives and property.

The U. S. Volunteer Life-Saving Corp, State of New York, is doing excellent work. Subscription price of \$1 for its official journal or other contributions may be sent to President J. Wesley Jones, World Building, New York.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The three elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
Aug. 24.....	E. 14° N. = N. $6\frac{1}{4}$ E. = E. by N. $\frac{1}{4}$ N.		
Aug. 26.....	E. 14° N. = N. $6\frac{1}{4}$ E. = E. by N. $\frac{1}{4}$ N.		
Aug. 29.....	E. 12° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{1}{8}$ N.		
Aug. 31.....	E. 11° N. = N. 7 E. = E. by N.		

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION
LAKE MICHIGAN, LAT. 44° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
Aug. 24.....	E. 15° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{3}{8}$ N.		
Aug. 26.....	E. 14° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{1}{4}$ N.		
Aug. 29.....	E. 13° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{1}{8}$ N.		
Aug. 31.....	E. 11° N. = N. 7 E. = E. by N.		

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
Aug. 24.....	E. 15° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{3}{8}$ N.		
Aug. 26.....	E. 15° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{3}{8}$ N.		
Aug. 29.....	E. 13° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{1}{8}$ N.		
Aug. 31.....	E. 12° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{1}{8}$ N.		

LAKE SUPERIOR, LAT. 48° N.

Sunrise.	Amplitudes.	Bearing P'ts.	Bearing Comp.
Aug. 24.....	E. 16° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{1}{2}$ N.		
Aug. 26.....	E. 15° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{3}{8}$ N.		
Aug. 29.....	E. 14° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{1}{4}$ N.		
Aug. 31.....	E. 12° N. = N. $6\frac{1}{2}$ E. = E. by N. $\frac{1}{8}$ N.		

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

AN editor who died of starvation was being escorted to heaven by an angel who had been sent out for that purpose, says the Findlay (Ohio) Courier. "May I look at the other place before we ascend to eternal happiness?" "Easily," said the angel. So they went below and skirmished around, taking in the sights. The angel lost track of the editor and went around hades to hunt for him. He found him sitting by a furnace fanning himself and gazing with rapture upon a lot of people in the fire. There was a sign on the furnace which said: "Delinquent Subscribers." "Come," said the angel, "we must be going." "You go on," said the editor, "I'm not coming. This is heaven enough for me."

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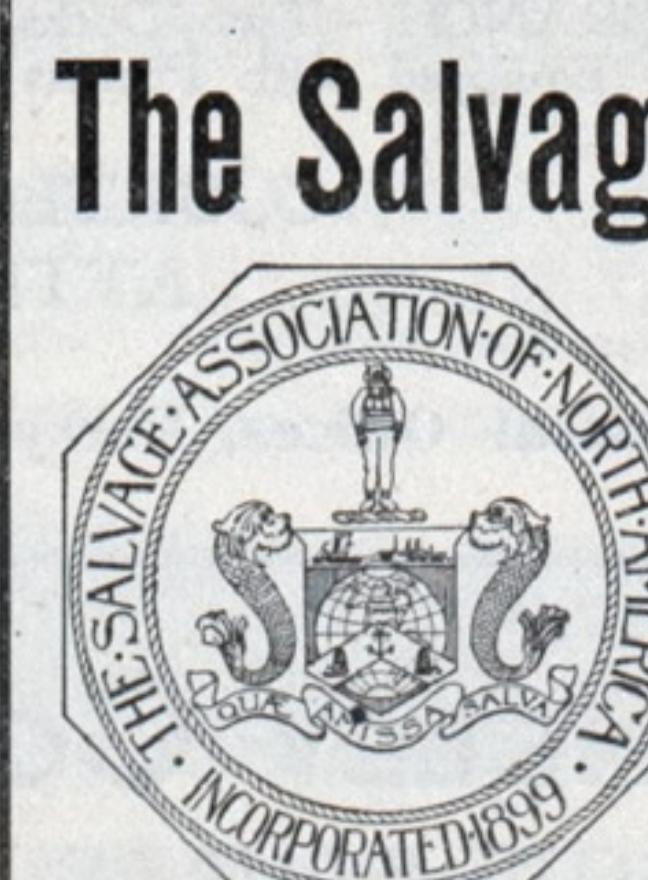
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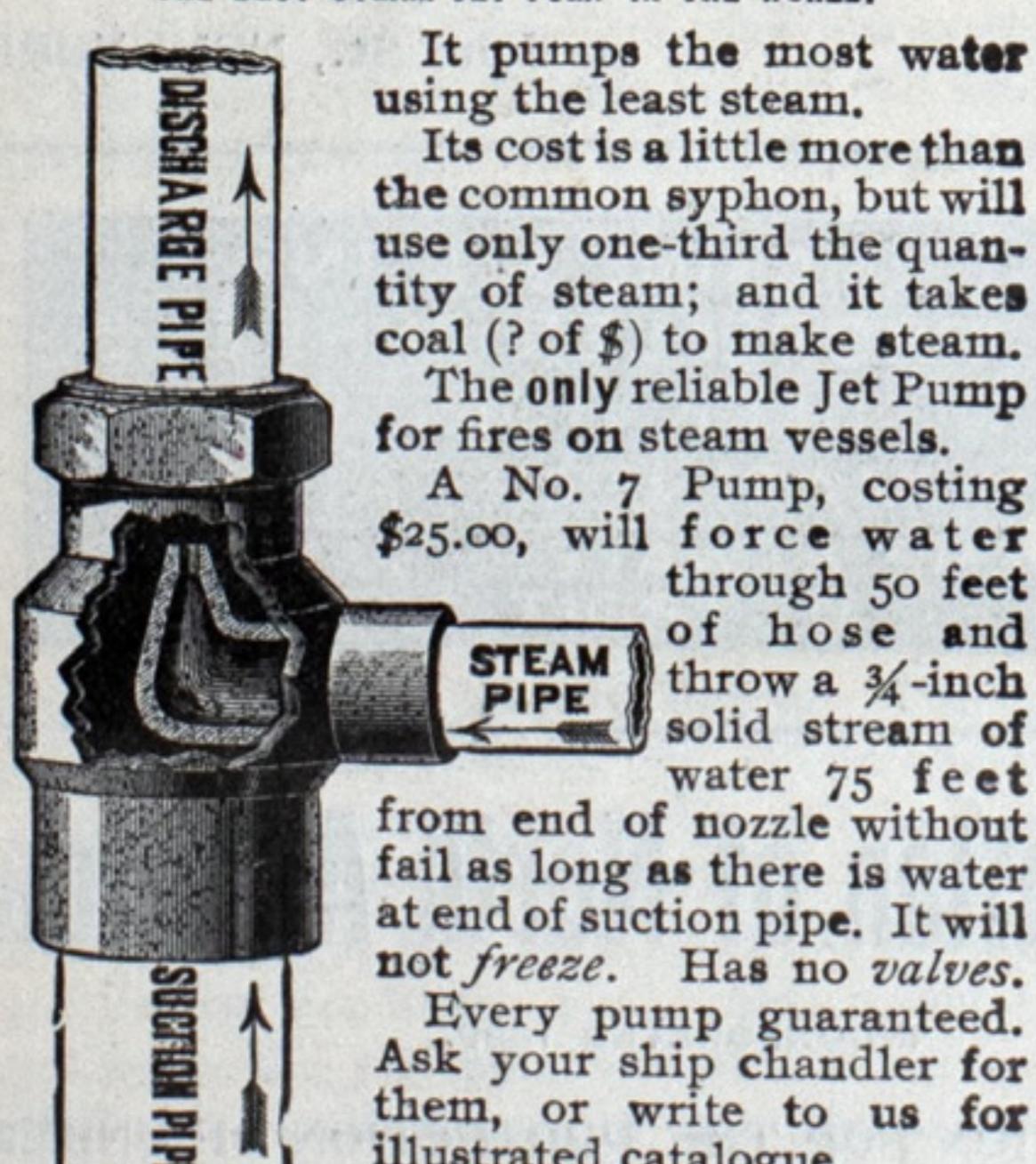
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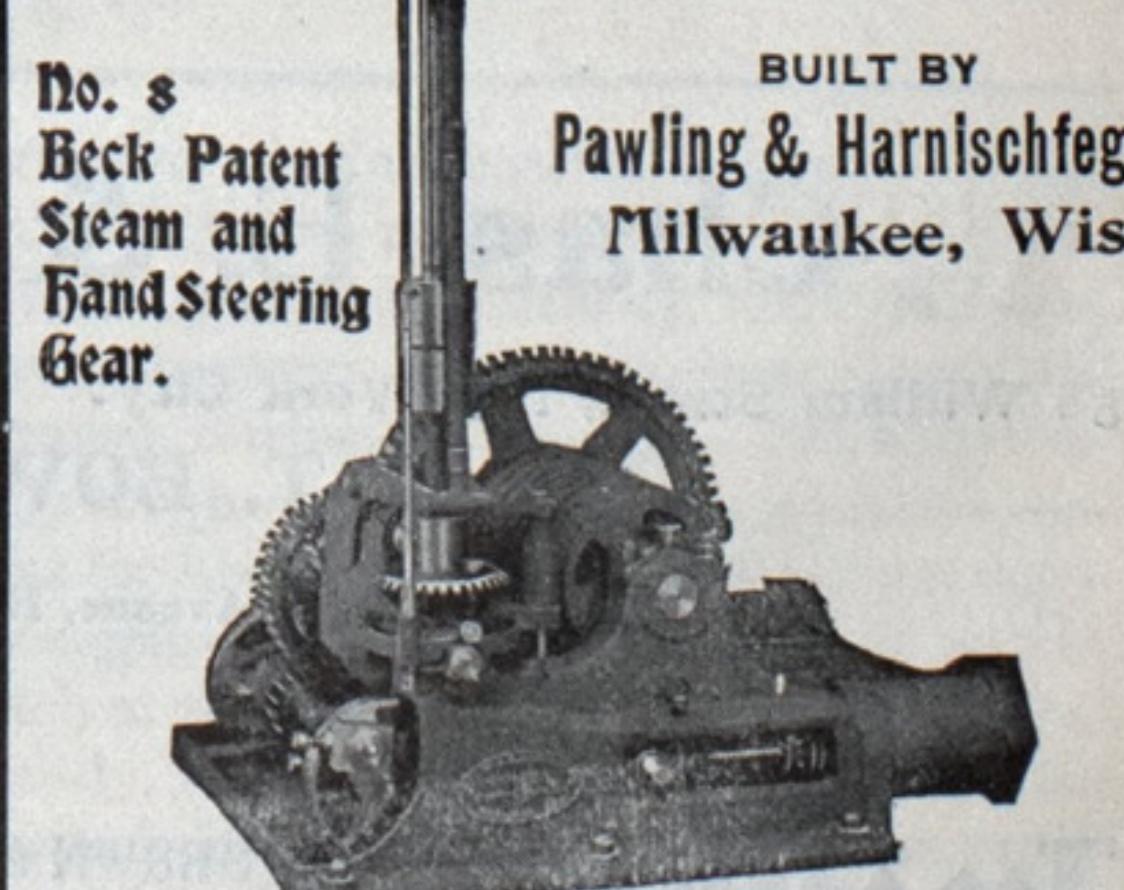
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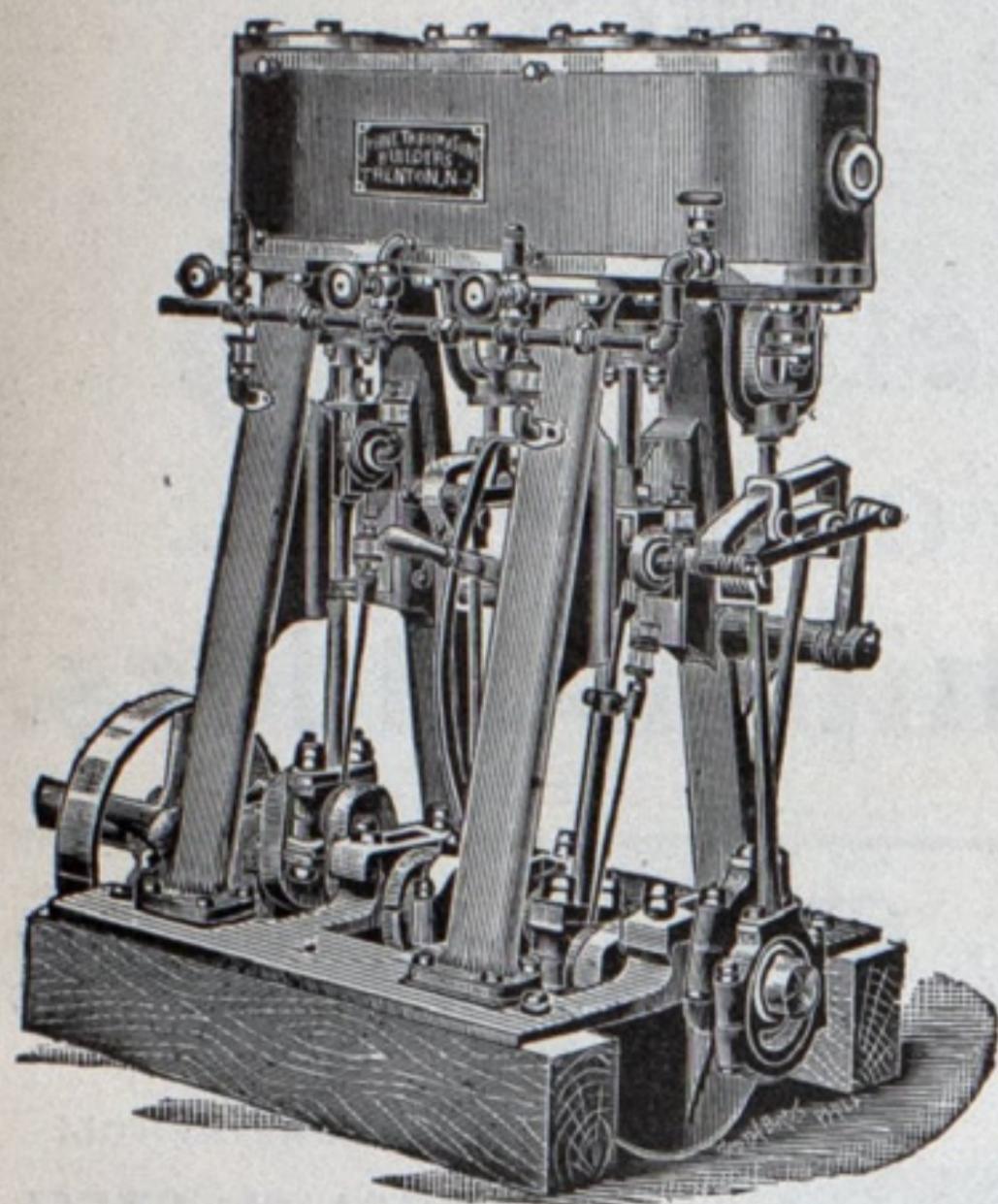
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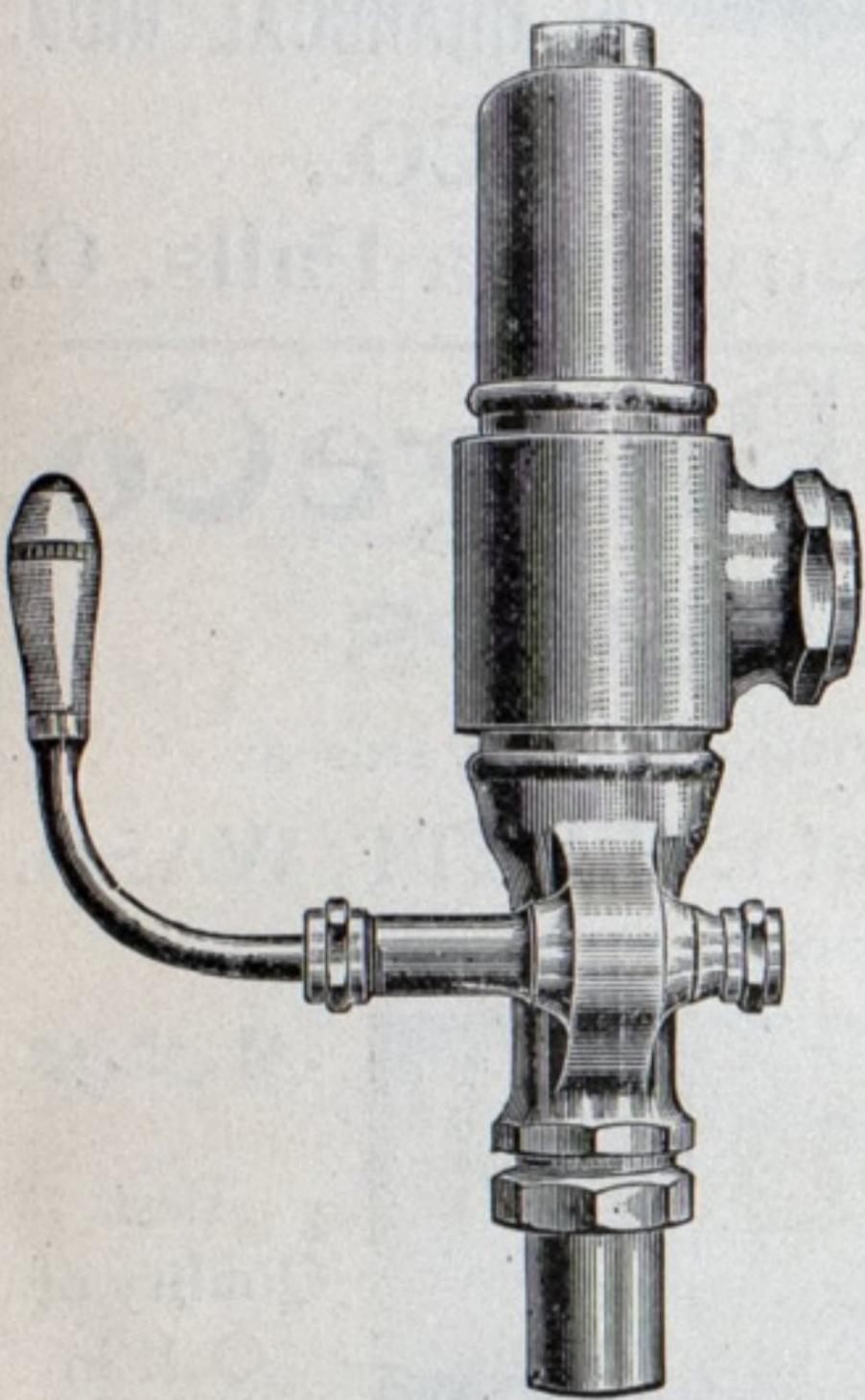
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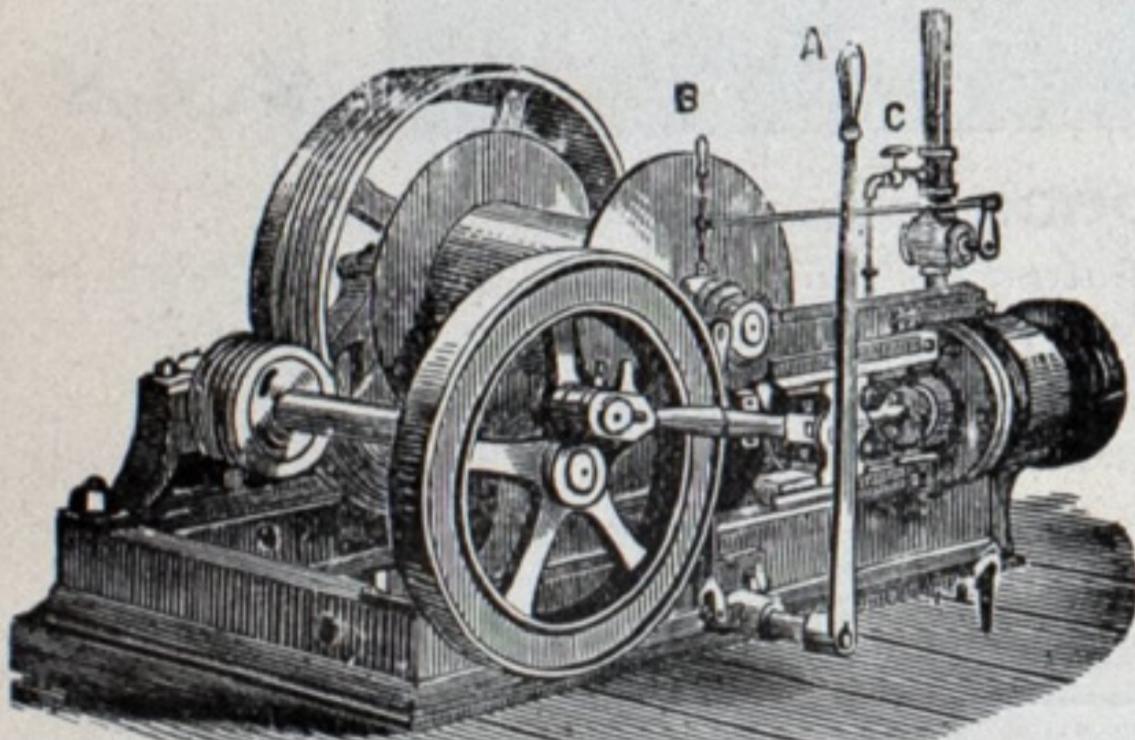
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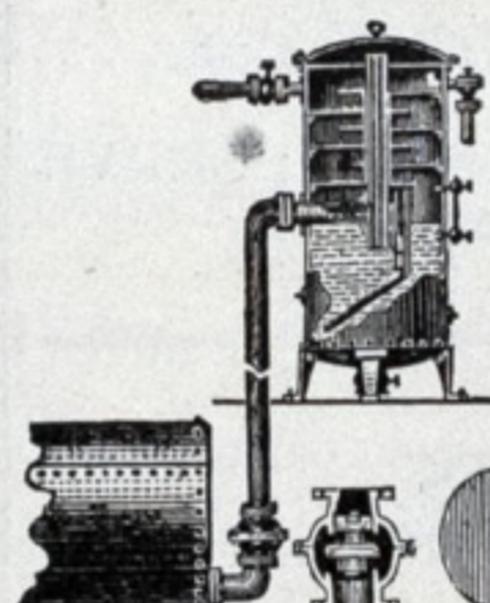
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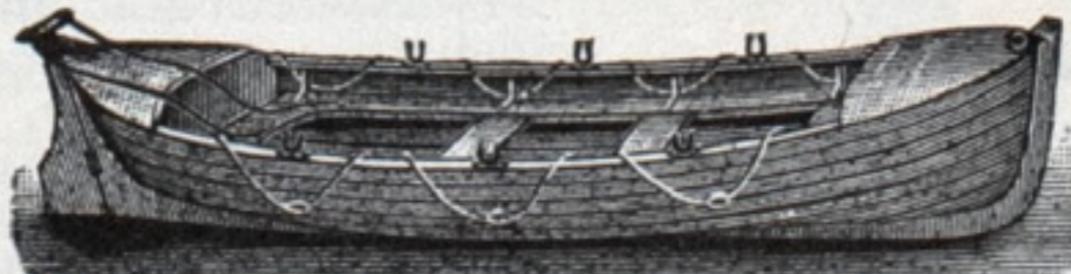
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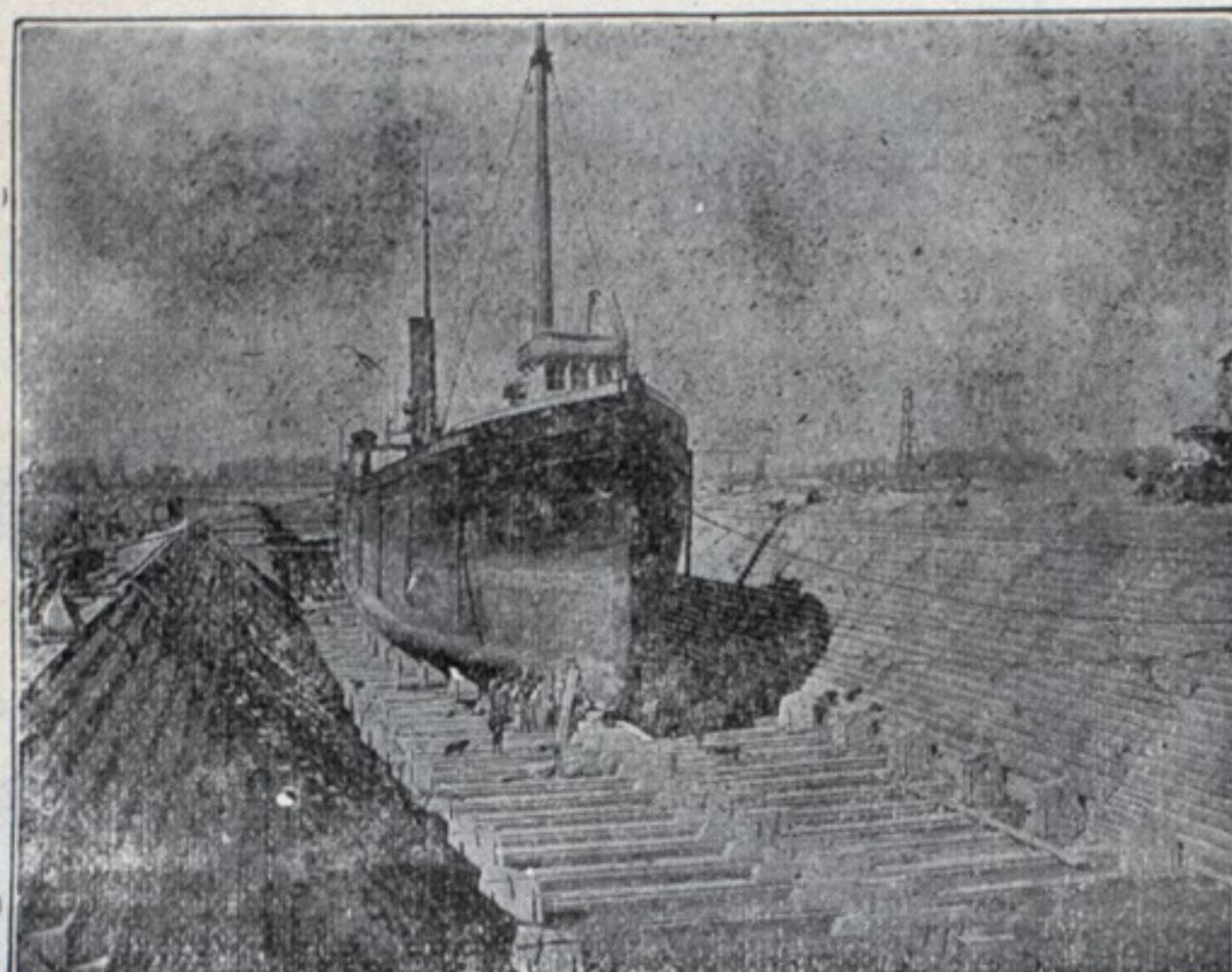
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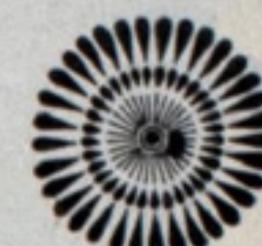
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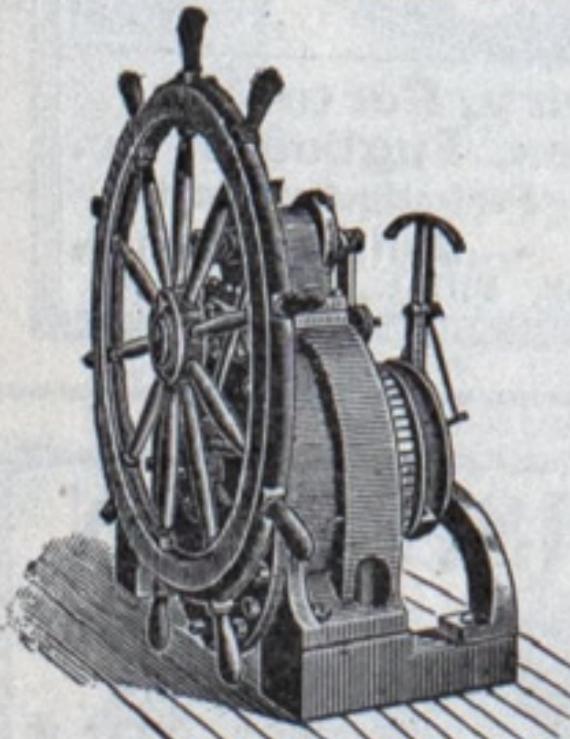
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